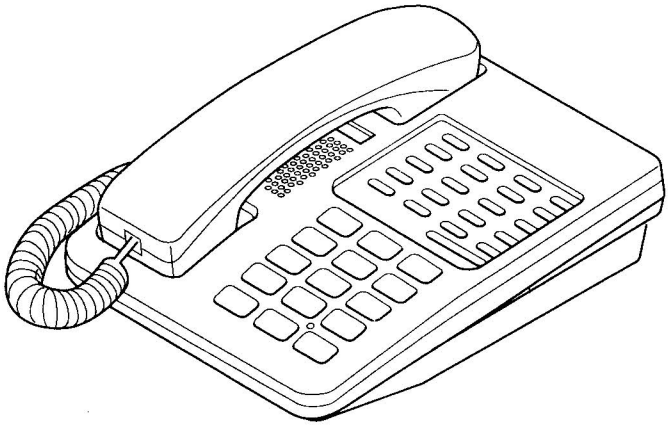
ORDER NO. KMS9612185C3

Service Manual

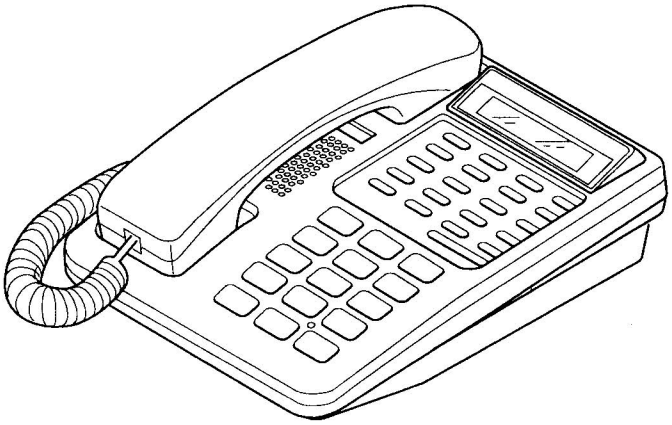
PROPRIETARY TELEPHONE FOR
ELECTRONIC MODULAR SWITCHING
AND DIGITAL SUPER HYBRID SYSTEMS

KX-T7320X
KX-T7330X

(for Asia, Middle Near East and other areas)



(Model KX-T7320X)



(Model KX-T7330X)

■ SPECIFICATIONS

Station Loop Limit:	40 ohms
Cabling Method:	2 pair wire
Jacks:	EMSS, Handset/Headset
Display:	16 digits (max.)
Dimensions:	190 (W)×90 (H)×240 (D) mm with handset
Weight:	950 g (2 lb. 2 oz.)

Design and specifications are subject to change without notice.

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians.
Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Panasonic

When you note the serial number, write down all of the 11 digits. The serial number may be found on the label affixed to the bottom of the unit.

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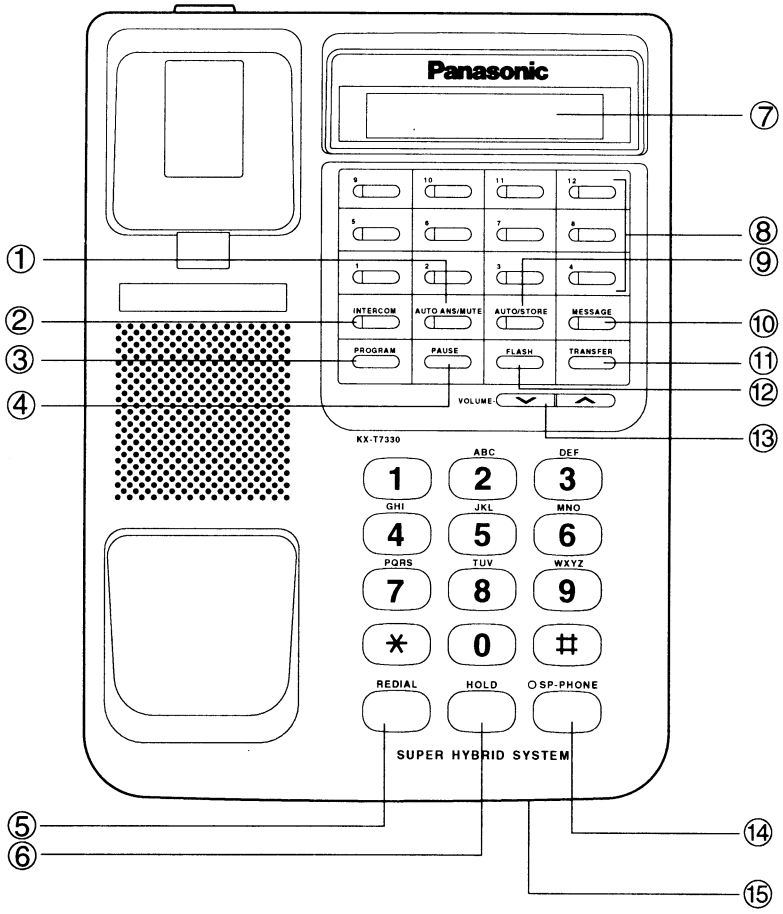
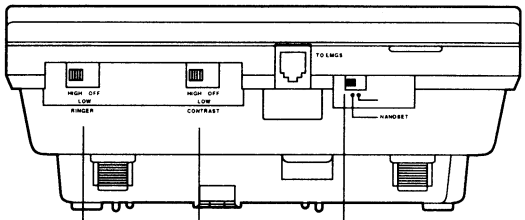
LOCATION OF CONTROLS





HANDSET/HEADSET Selector:
(KX-T7330X only)
Set to "HANDSET".

CONTRAST Selector:
(KX-T7330X only)
Set the display density.

RINGER Volume Selector:
Set the ringing volume.

* The illustration used on this page is KX-T7330X.

① **AUTO ANS/MUTE Button and Indicator:**
AUTO ANS is used to answer an intercom call automatically. MUTE is used to listen to the other party without them hearing you in the handsfree conversation mode.

② **INTERCOM Button and Indicator:**
Used to make or receive an intercom call.

③ **PROGRAM Button:**
Used to enter and exit the Programming mode.

④ **PAUSE Button:**
Used to insert a pause in a speed dial number.

⑤ **REDIAL Button:**
Used to redial the last number dialed.

⑥ **HOLD Button:**
Used to place a call on hold.

⑦ **LCD(Liquid Crystal Display):**
(KX-T7330X only)

⑧ **Flexible CO (DN for KX-T96 and KX-T336 only) Buttons and Indicators:**
Can be used as a CO, Direct Station Selection(DSS), or One-Touch Dialing button.
(not available for KX-T206, KX-T30810 and KX-T61610.)
Can also be used as a FWD/DND or CONFERENCE button.

⑨ **AUTO/STORE Button and Indicator:**
AUTO is used before dialing a speed dial number. In "PROGRAM" mode, STORE is used to store a programmig procedure in memory at the end of an operation.

⑩ **MESSAGE Button and Indicator:**
(not available for KX-T206, KX-T30810 and KX-T61610.)
Used to send a message or display a current message.
CONFERENCE Button and Indicator:
(available for KX-T206, KX-T30180 and KX-T61610 only.)
Allows you to make a three-party conference.To use this feature, you need to exchange the attached Tel card with the accesory card.

⑪ **TRANSFER Button:**
Used to transfer an outside or intercom call to another extension.

⑫ **FLASH Button:**
Used to send a hooking signal to a Central Office.

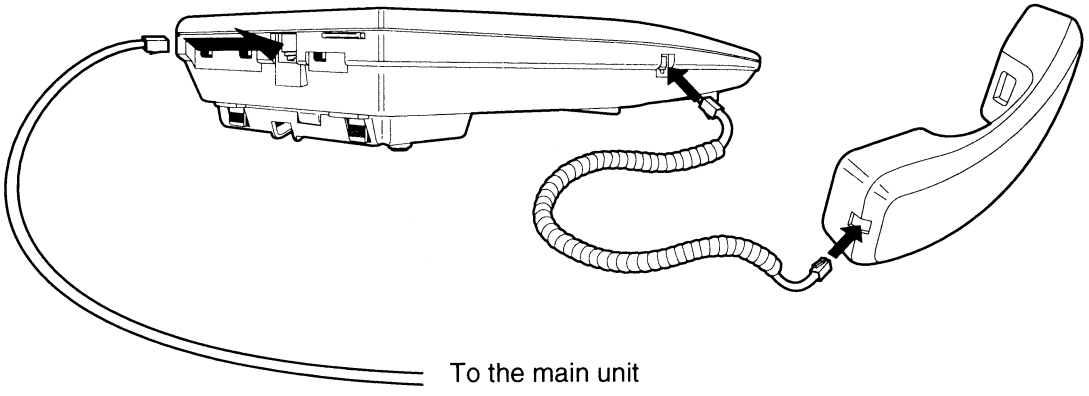
⑬ **VOLUNE Control Buttons:**
Used to adjust the volume of the handset receiver, headset and speaker.

⑭ **SP-PHONE Button and Indicator:**
Used to make or receive a phone call without using the handset.

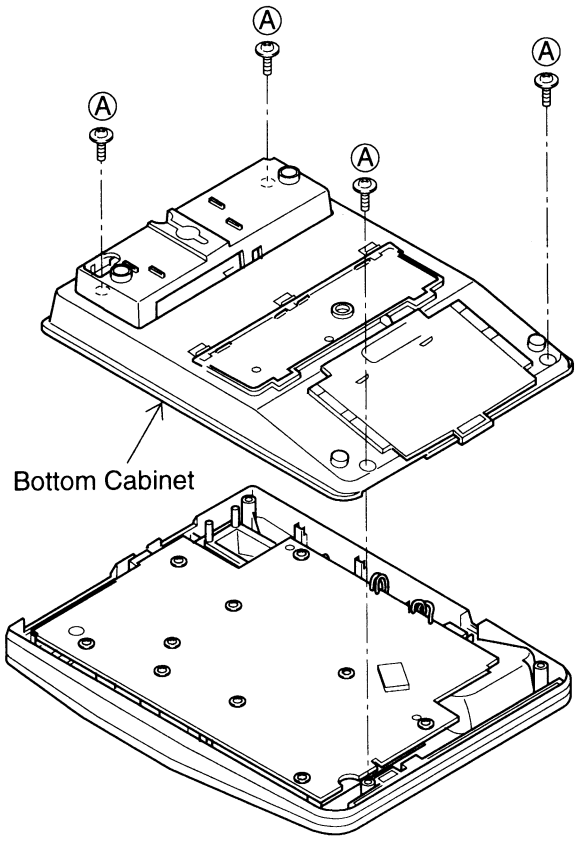
⑮ **MIC (Microphone):**
Used for a handsfree conversation.

CONNECTION

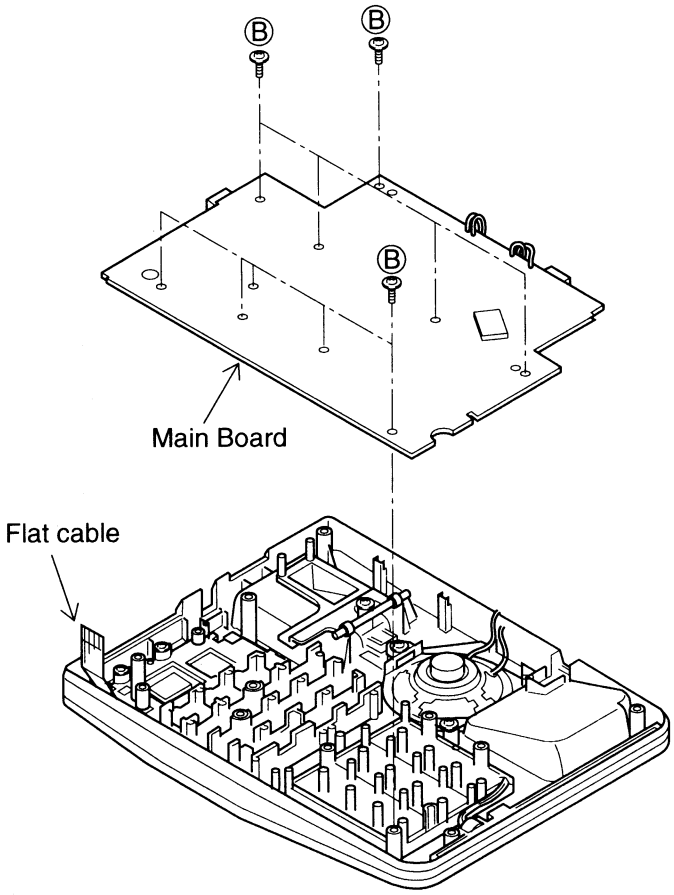
Connect as shown.



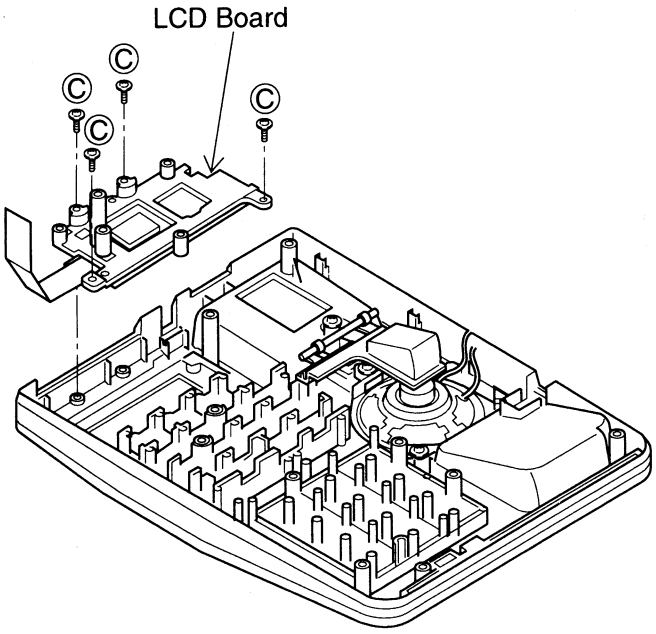
DISASSEMBLY INSTRUCTIONS



1. Remove the 4 screws Ⓐ.
2. Remobe the bottom cabinet.



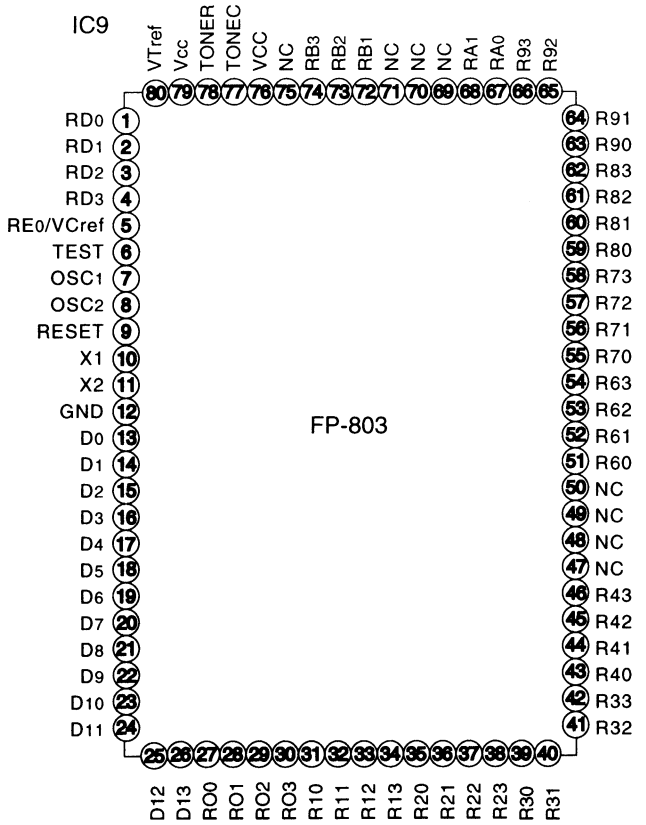
3. Remve the 10 screws Ⓑ.
4. Remove the main board.
5. Pull out the flat cable from main board.
   (KX-T7330X only)



(KX-T7330X only)

6. Remove the 4 screws Ⓒ.
7. Remove the LCD board.

IC DATA

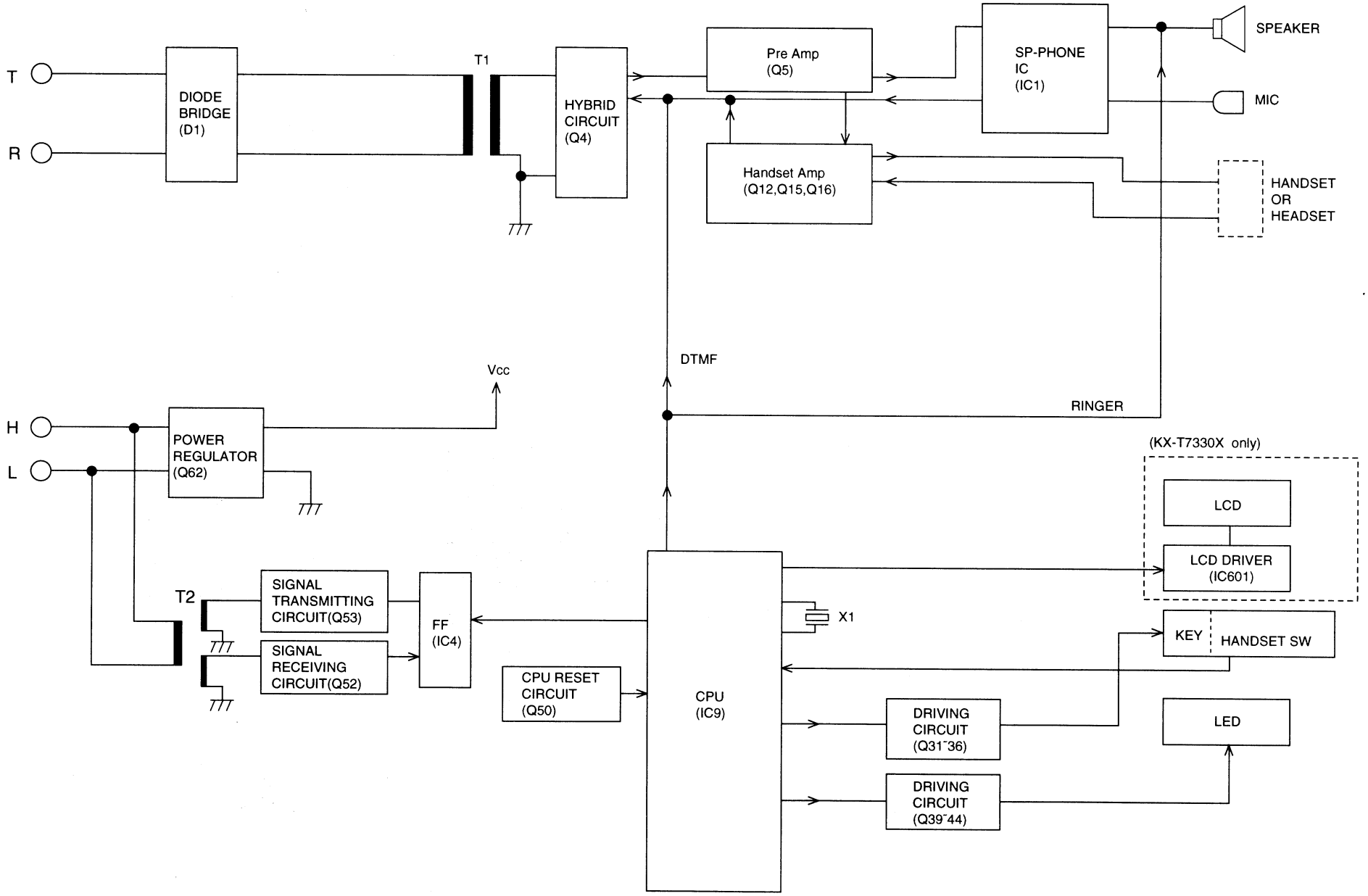


IC9:	PSVI4688A54F
Program Rom:	8K Byte (4 bit)
Internal RAM:	4K bit
Clock Frequency:	4 MHz
Power Supply Voltage:	2.7~6V

Pin No.	Pin Name	Function	High	Low
1	RD0	Busy Tone Signal Input	Disable	Enable
2	RD1	—	—	—
3	TSPU1	—	—	—
4	TSPU2	—	—	—
5	RE0	Key Input	Disable	Enable
6	$\overline{\text{TEST}}$	—	—	—
7	OSC1	System Clock	—	—
8	OSC2	System Clock	—	—
9	RESET	System Reset Input	—	—
10	X1	—	—	—
11	X2	—	—	—
12	GND	Ground	—	—
13	D0	LCD Enable Control Output	Active	Normal
14	D1	Data Input Control	Normal	Active
15	D2	Data Input	Disable	Enable
16	D3	Data Output	Active	Normal
17	D4	LED Control Output	Active	Normal
18	D5	LED Control Output	Active	Normal
19	TSPU3	—	—	—
20	D7	LED Control Output	Active	Normal
21	TSPU4	—	—	—
22	D9	LED Control Output	Active	Normal
23	D10	LED Control Output	Active	Normal
24	D11	LED Control Output	Active	Normal
25	D12	Model Code 1	—	—
26	D13	Model Code 2	—	—
27	R00	Key Input	Disable	Enable

Pin No.	Pin Name	Function	High	Low
28	R01	Key Input	Disable	Enable
29	R02	Interrupt Input	Standby	Active
30	R03	Hook Data Input	OFF-HOOK	ON-HOOK
31	R10	LED Control Input and Key Scan Output	Active	Normal
32	R11	LED Control Input and Key Scan Output	Active	Normal
33	R12	LED Control Input and Key Scan Output	Active	Normal
34	R13	LED Control Input and Key Scan Output	Active	Normal
35	R20	LED Control Input and Key Scan Output	Active	Normal
36	R21	LED Control Input and Key Scan Output	Active	Normal
37	R22	—	—	—
38	R23	—	—	—
39	R30	SP-Phone Volume Control 0	ON	OFF
40	R31	SP-Phone Volume Control 1	ON	OFF
41	R32	SP-Phone Volume Control 2	ON	OFF
42	R33	SP-Phone Volume Control 3	ON	OFF
43	R40	Tone Control Output 0	ON	OFF
44	R41	Tone Control Output 1	ON	OFF
45	R42	Tone Control Output 2	ON	OFF
46	R43	Tone Control Output 3	ON	OFF
47	TSPU5	—	—	—
48	TSPU6	—	—	—
49	TSPU7	—	—	—
50	TSPU8	—	—	—
51	R60	Handset SP-MIC Mute	ON	OFF
52	R61	SP-Phone SP Mute	ON	OFF
53	R62	Ringer OFF Input	ON	OFF
54	R63	—	—	—
55	R70	Key Input	Disable	Enable
56	R71	Handset Power	OFF	ON
57	R72	Handset Volume Control 0	ON	OFF
58	R73	Handset Volume Control 1	ON	OFF
59	R80	LCD Data Output	Active	Normal
60	R81	LCD Data Output	Active	Normal
61	R82	LCD Data Output	Active	Normal
62	R83	LCD Data Output	Active	Normal
63	R90	LCD Data Control	—	—
64	R91	LCD Data Control	—	—
65	R92	SP-Phone Chip-Select Control	OFF	ON
66	R93	SP-Phone MIC Mute	ON	OFF
67	RA0	SP-Phone Path Control	ON	OFF
68	RA1	—	—	—
69	STPU9	—	—	—
70	STPU10	—	—	—
71	STPU11	—	—	—
72	RB1	Key Input	Disable	Enable
73	RB2	Key Input	Disable	Enable
74	RB3	Key Input	Disable	Enable
75	TSPU12	—	—	—
76	SEL	—	—	—
77	TONEC	DTMF Signal Column Output	—	—
78	TONER	DTMF Signal Row Output	—	—
79	Vcc	Power Supply	—	—
80	VTref	DTMF Standard Voltage	—	—

BLOCK DIAGRAM



CIRCUIT OPERATIONS

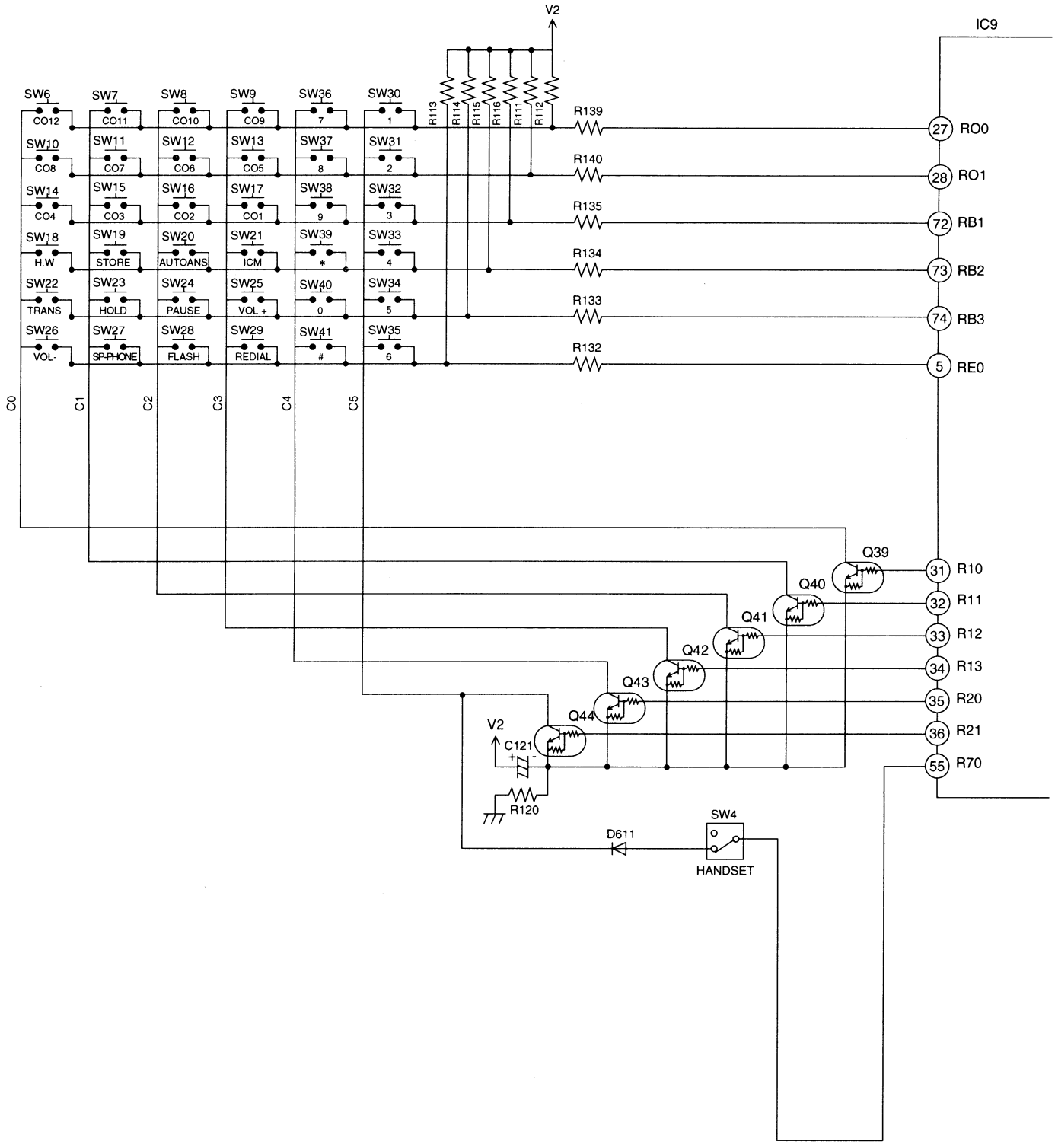
1. KEY INPUT CONTROL CIRCUIT

Sequential input information is executed by dynamic scanning.

The ports R30 to R13, R20, R21 and R70 of IC9 are brought to low status consecutively.

If a key is pressed, the key-in information input is executed by ports R00 , R01, RB1 to RE3 and RE0.

Circuit Diagram

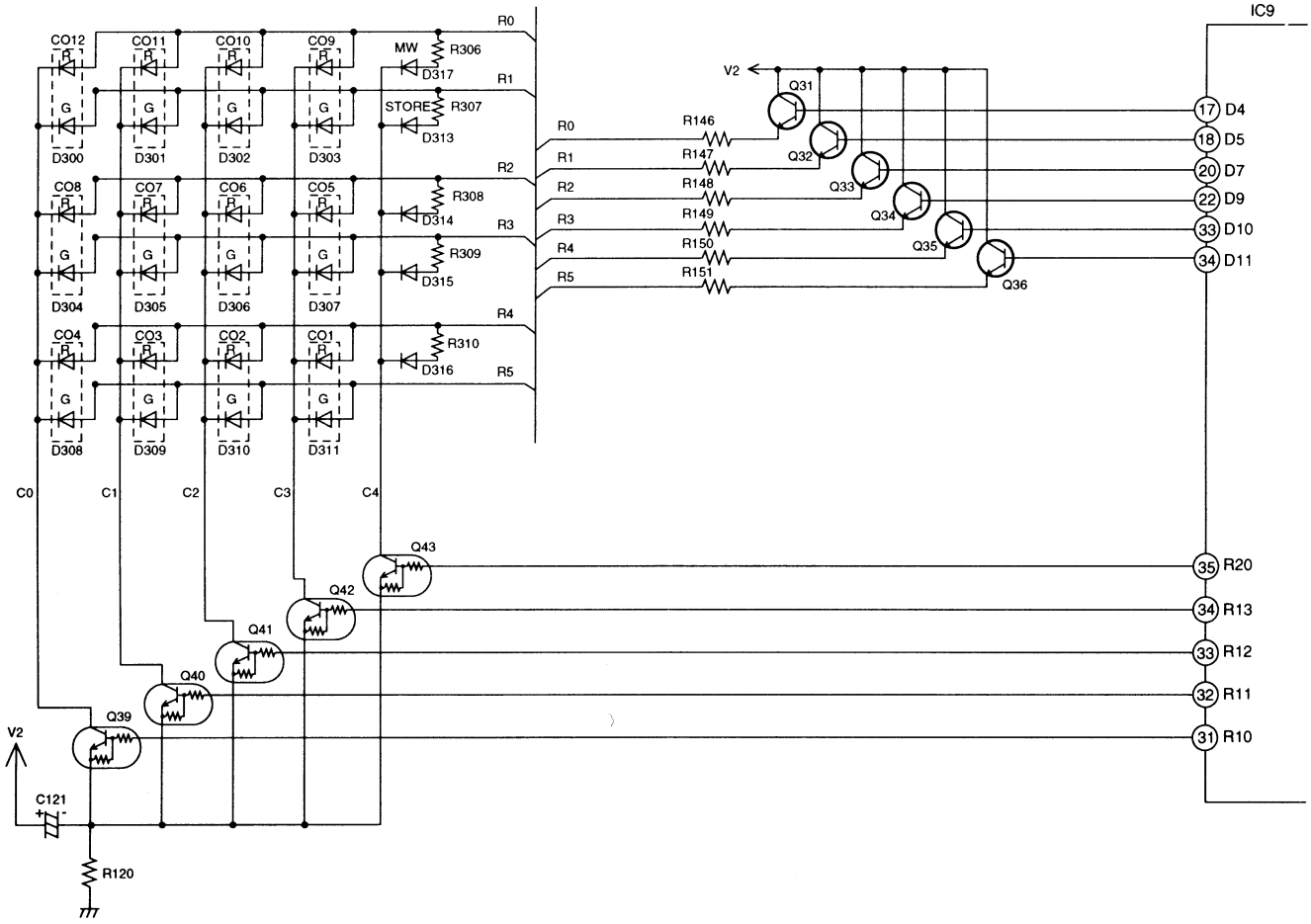


2. LED CIRCUIT

Circuit Operation:

The LED executes dynamic lighting for the status Indicators, and control is executed by the output ports R10 to R13, R20, D4, D5, D7 and D9 to D11.

Circuit Diagram



3. DATA COMMUNICATION CIRCUIT

Function:
The data communication circuit serves the following functions:
Information exchanger between the EMSS/DSHS and EMSS/DSHS proprietary telephone, key input information as well as data for the LED control, LCD control, etc. This information is continuously exchanged at all times.

Circuit Operation:
When the EMSS proprietary telephone receives an IRQ signal from the EMSS/DSHS and after sending the key input information (19 pulses) to the EMSS/DSHS and receiving data (47 pulses) for the LED control, etc., the EMSS/DSHS proprietary telephone will return to the EMSS/DSHS an acknowledge signal.

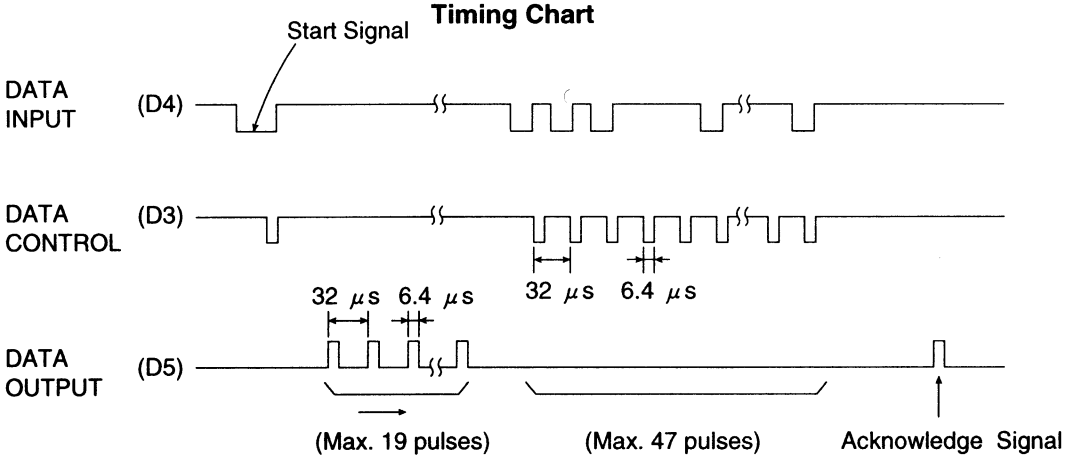
1) Reception
The data from the EMSS/DSHS is received via the H and L lines along the path shown below.

H, L Line → T2 → R125 → Q52 → IC9 → IC9 Pin 15

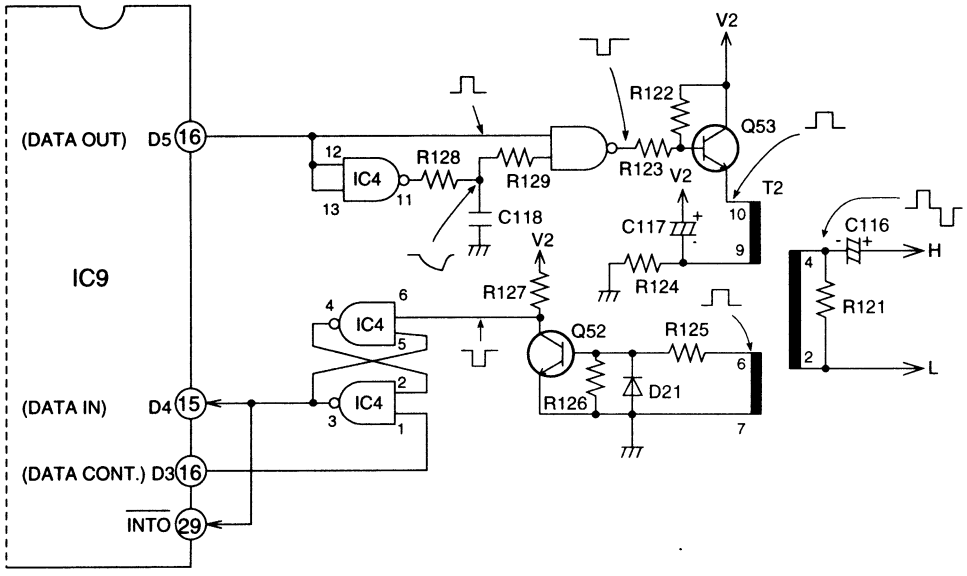
2) Transmission
The data to the EMSS proprietary telephone is transmitted along the following path.

IC9 Pin 16 → IC4 → R123 → Q53 → T2 →H, L Line

Timing Chart



Circuit Diagram



4. RESET CIRCUIT

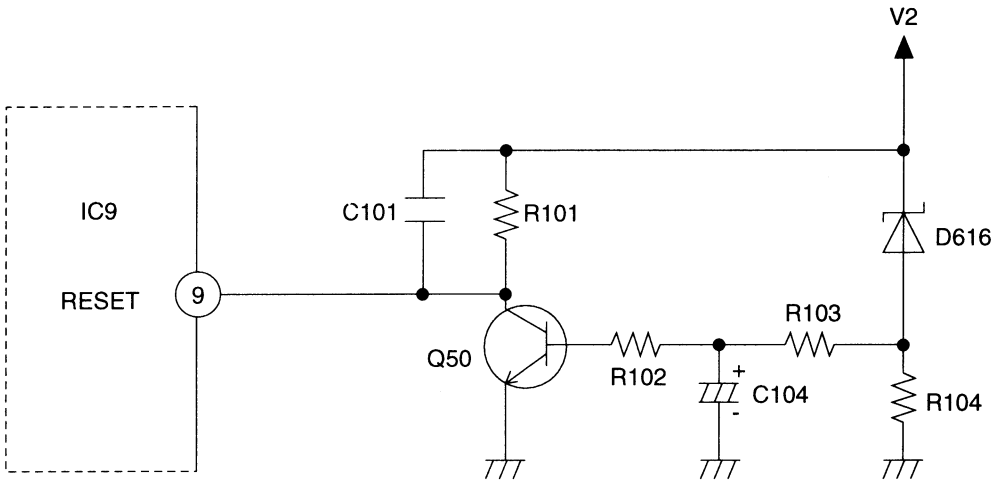
Circuit Operation:

This circuit is used for transmission of a reset pulse to the CPU (IC9) at the following times, connecting the telephone line jack and circuit operation.

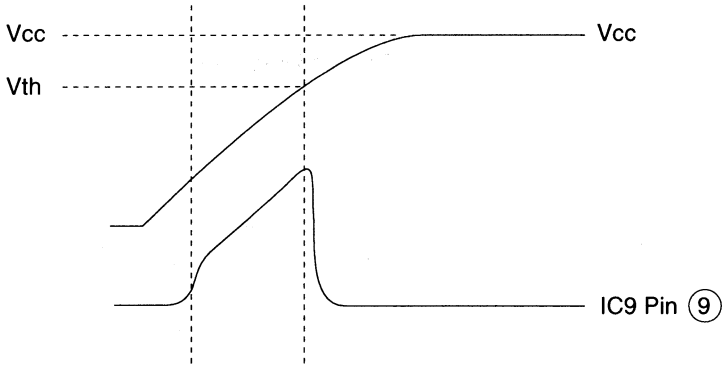
The timing chart is shown below.

Power ON → Q50 ON → IC9 (Pin 9) high level → Q50 OFF → IC9 (Pin 9) low level

Circuit Diagram



Timing Chart



5. TONE GENERATION CIRCUIT

Function:

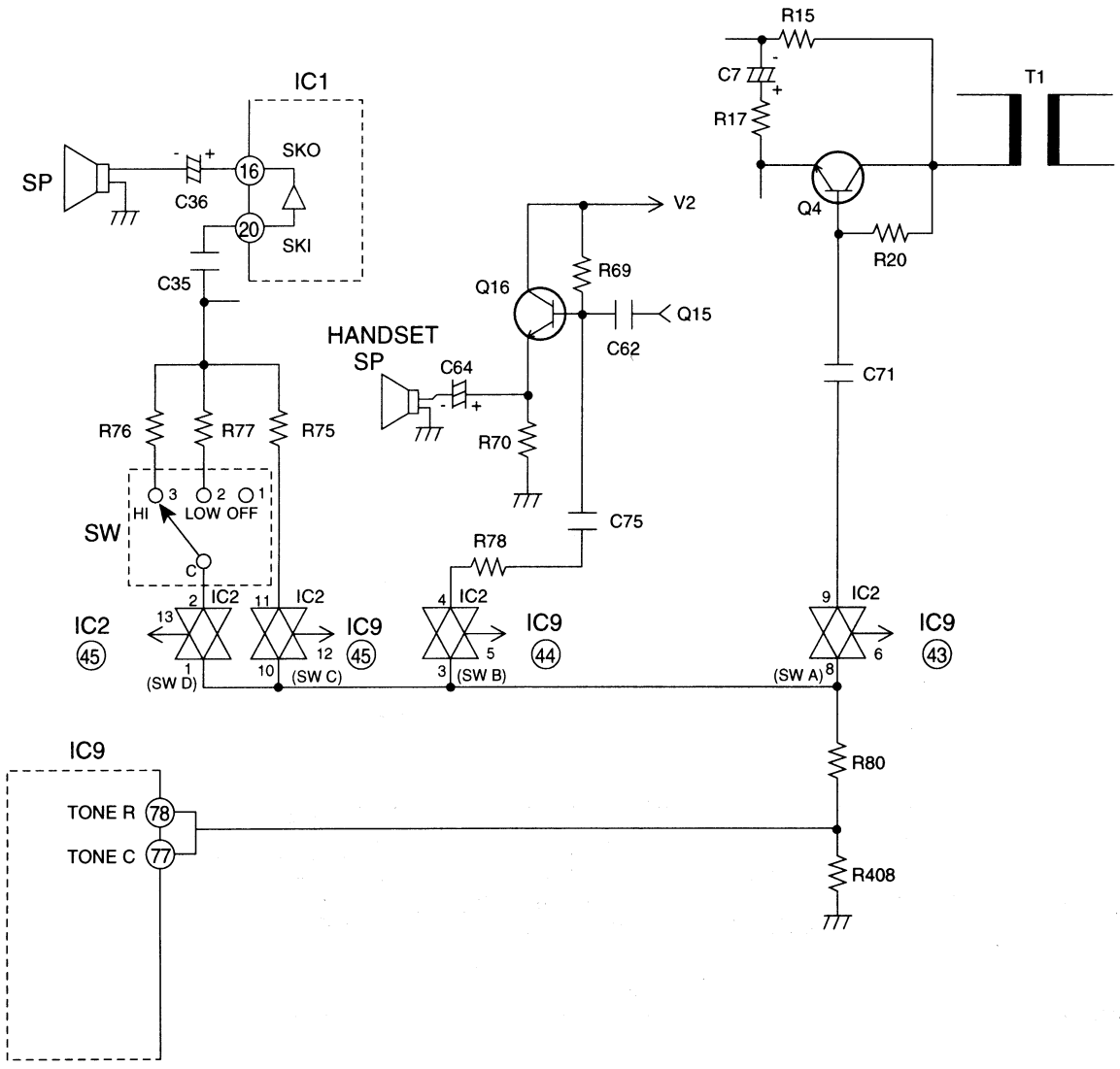
This circuit generates all system tones including COL, extension, busy, DTMF signals and key in confirmation tones during the power failure mode and is comprised of IC9 (DTMF Generator) and IC2 (Analog Switch).

Circuit Operation:

IC10 is the DTMF generator IC.

For an output of a single row tone, the row terminal and the each column terminals intersecting with it are required to be broughe a low atate. For a dual tone output, one row terminal and one column terminal are brought to low state.

Circuit Diagram



CONDITION	IC9 pin43	IC2 SWA	IC9 pin44	IC2 SWB	IC9 pin45	IC2 SWC	IC9 pin46	IC2 SWD
Ringing	L	OFF	L	OFF	L	OFF	H	ON
Call Waiting	L	OFF	L	OFF	H	ON	L	OFF
Tone Dial (Handset)	H	ON	H	ON	L	OFF	L	OFF
Tone Dial (Speakerphone)	H	ON	L	OFF	H	ON	L	OFF

6. HANDSET CIRCUIT

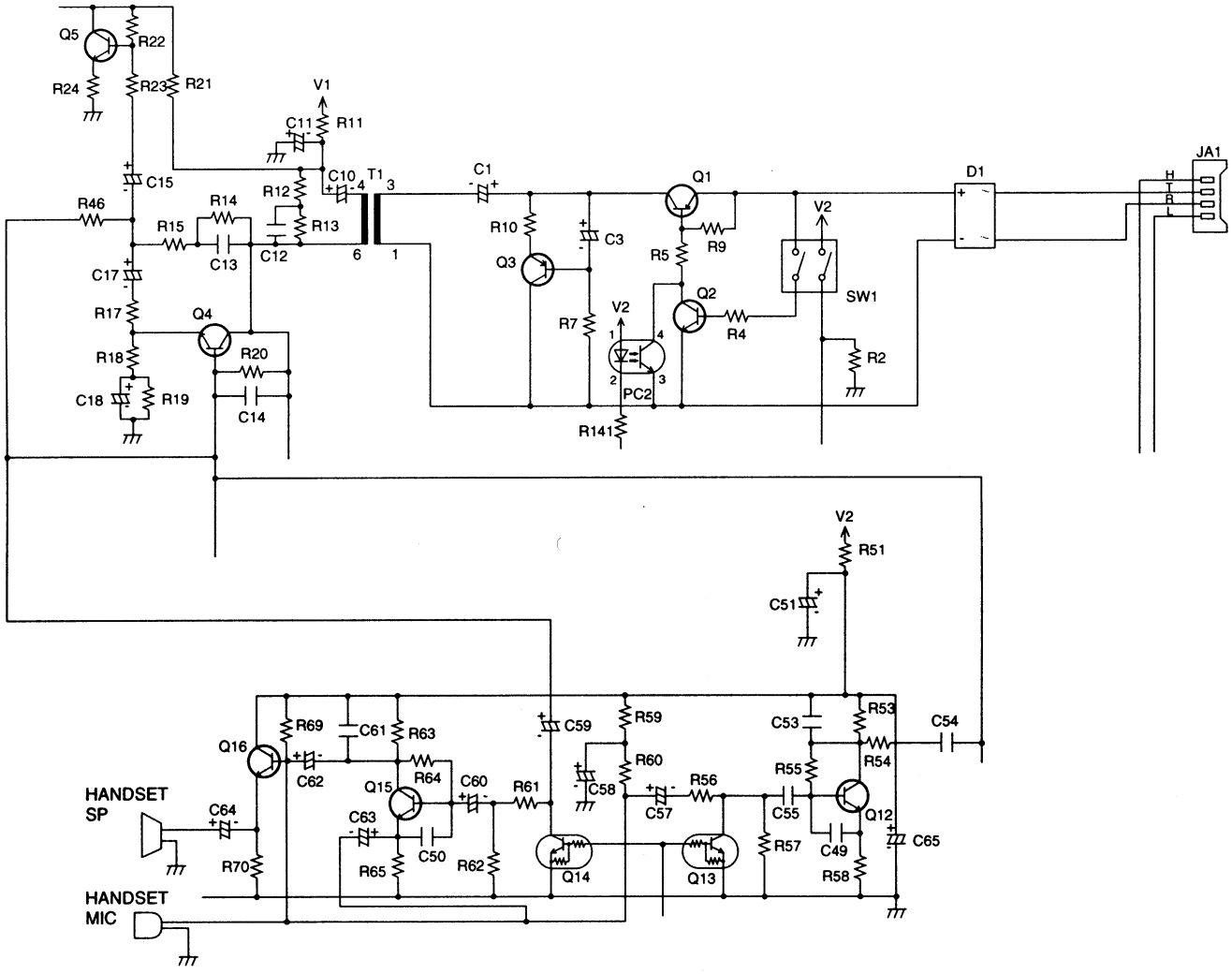
1) Transmission Signal Path

The input signal for the handset microphone is sent through the telephone line via the following path:
Handset MIC → C57 → R56 → C55 → Q12 → R54 → C51 → Q4 → T1 → C1 → Q1 →D1→ Telephone Line

2) Reception Signal Path

The input signal from the telephone line is sent to the receiver through the following path:
Telephone Line → D1 → Q1 → C1 → T1 → Q4 → Q15 → Q16 → C64 → Handset Speaker

Circuit Diagram



7. SPEAKERPHONE CIRCUIT

Function:
This circuit controls the automatic switching of the transmitted and received signals to and from the telephone line, when the unit is used in the hands-free mode.

Circuit Operation:
The speakerphone can only provide a one-way communication path at a given time, but cannot do both simultaneously.Therefore, a switching circuit is necessary to control the flow of the outgoing and incoming signais.
In other words, it can either transmit an outgoing signal or receive an incoming signal at a given time,but cannot do both simuitaneousiy. Therefore, a switching circuit is necessary to control the flow of the outgoing and incoming signais.
This switching circuit is contained in IC1 and consists of a Voice Detector, Tx Attenuator, Rx Attenuator, Comparator and Attenuator Control. The circuit analyzes whether the Tx (transmit) or Rx (receive) signal is louder, and then it processes the signals so that the louder signal is given precedence.
The Voice Detector provides a DC input to the Attenuator Control corresponding to the Tx signal. The Comparator receives a Tx and Rx signal, and supplies DC input to the Attenuator Control corresponding to the Rx signal. The Attenuator Control provides a control signal to the Tx and Rx Attenuator to switch the appropriate signals ON and OFF.
The Attenuator Control also detects the level of the volume control to automatically adjust the volume for changing ambient conditions.

1) Control Signal Path
Control signals for transmission and reception are input to IC1 via the following path:
(Transmission Control Signal Path)
MIC → IC1 Pin 9 → IC1 Pin 10 → IC1 Pin 3 → IC1 Pin 4 → IC1 Pin 5
(Reception Control Signal Path)
Telephone Line → Q4 → Q5 → IC1 Pin 7

2) Transmission/Reception Switching
The comparison result between Tx and Rx output is a DC level at IC1 Pin 23.
Tx level is high ..... Pin 24=Pin 20-6mV
Rx level is high ..... Pin 24=Pin 20-150mV
The comparator output is connected to the attenuator control inside IC1.

3) Voice Detector
The output of the mic amp (Pin 10 of IC1) is supplied to Pin 14 of IC1 as a control signal for the voice detector.

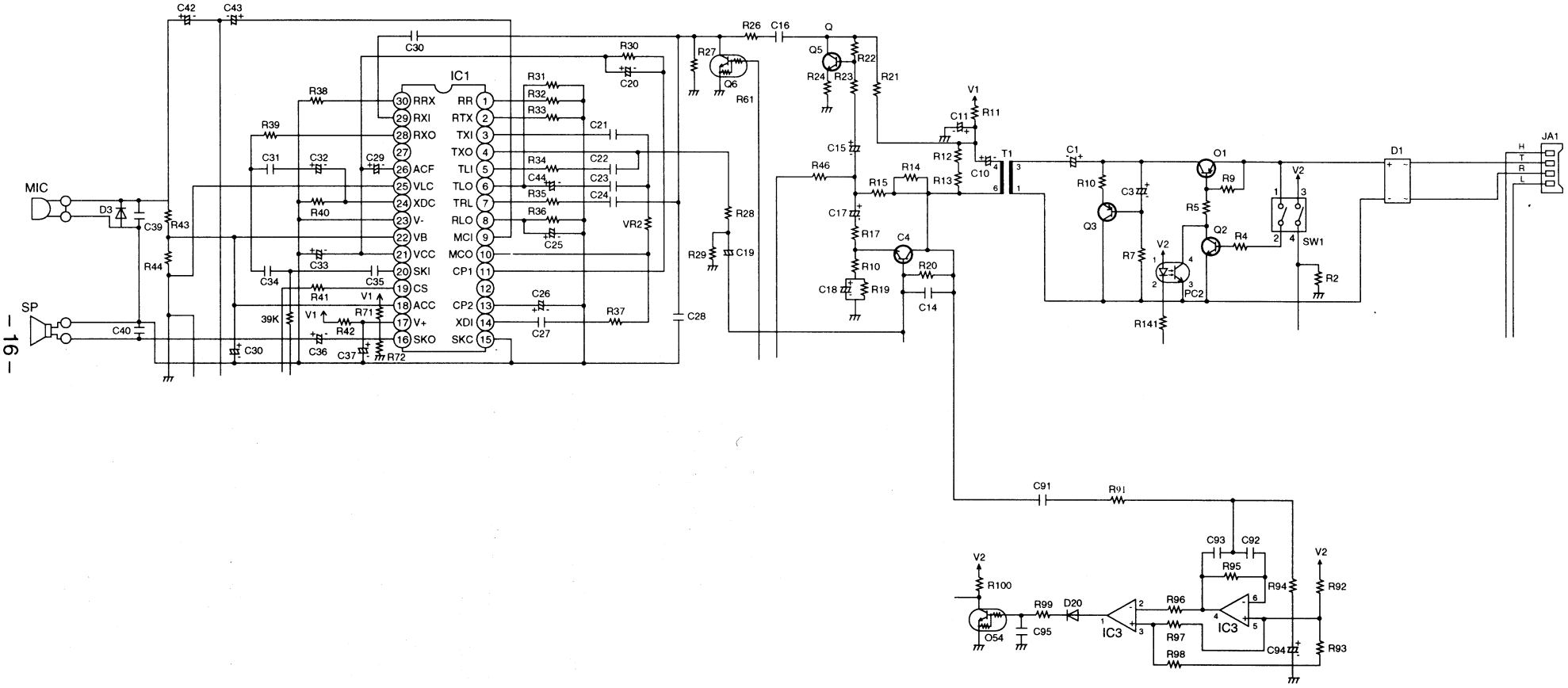
4) Attenuator Control
The attenuator control detects the setting of the volume control through Pin 25 of IC1 and automatically adjusts the volume for changing ambient conditions.

5) Transmission Signal Path
The input signal from the microphone is sent through the circuit via the following path:
MIC → C42 → IC1 Pin 9 → IC1 Pin 10 → IC1 Pin 3 → IC1 Pin 4 → R28 → C19 → Q4 → T1 → C1 →
D1 → Telephone Line

6) Reception Signal Path
Signals received from the telephone line are output to the speaker via the following path:
Telephone Line → D1 → Q1 → C1 → T1 → Q4 → Q5 → C16 → R26 → IC1 Pin 29 →
IC1 Pin 28 → IC1 Pin 20 → IC1 Pin 16 → SP

7) Busy Tone Detoctor Circuit
The busy tone detection for automatic redialing is executed as follows.
Telephone line → D1 → T1 → C91 → IC3 Pin 6,7 → IC3 Pin 2,1 → D20 → Q45 → IC6 Pin 1

Circuit Diagram



ADJUSTMENT

Perform the following adjustment after replacing IC2 and VR1.

Test Equipment:

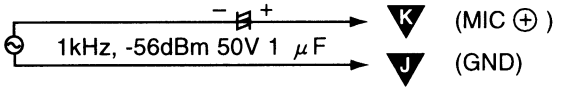
Loop Simulator
RC Oscillator
VTVM

Preparation:

1. Set the unit's controls as follows:
   A. SP-PHONE SWITCH– "ON"
   B. VOLUME CONTROL– "MAX "
2. Connect the pins 21 and 24 of IC 1.
3. Set the variable resistor of the loop simulator to maximum resistance (fully counterclockwise).
4. Connect the unit. (See Fig. 1)
5. Make adjustment in a quiet room.

Speakerphone Transmission Level:

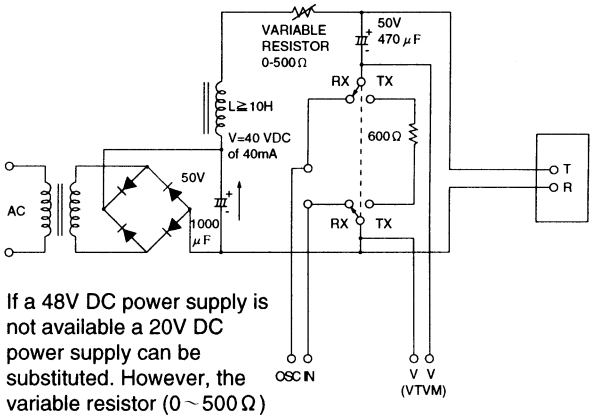
1. Set the loop simulator selector switch to "TX".
2. Connect the RC Oscillator to Test Point ▼J(–)-▼K(+), and connect an electrolytic capacitor (50 V, 1 μF) as shown below.
3. Set RC Oscillator to 1 kHz, -51 dBm.



4. Adjust VR2 for a reading of -17.0 dBm±0.5dB on the VTVM.

Please refer to the Circuit Board and wiring Connection Diagram which is located at the test point (▼).

Schematic Diagram of Loop Simulator



If a 48V DC power supply is not available a 20V DC power supply can be substituted. However, the variable resistor (0 ~ 500 Ω) must be set to 0 ohm.

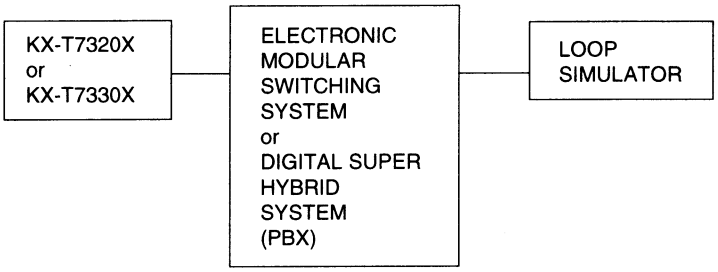
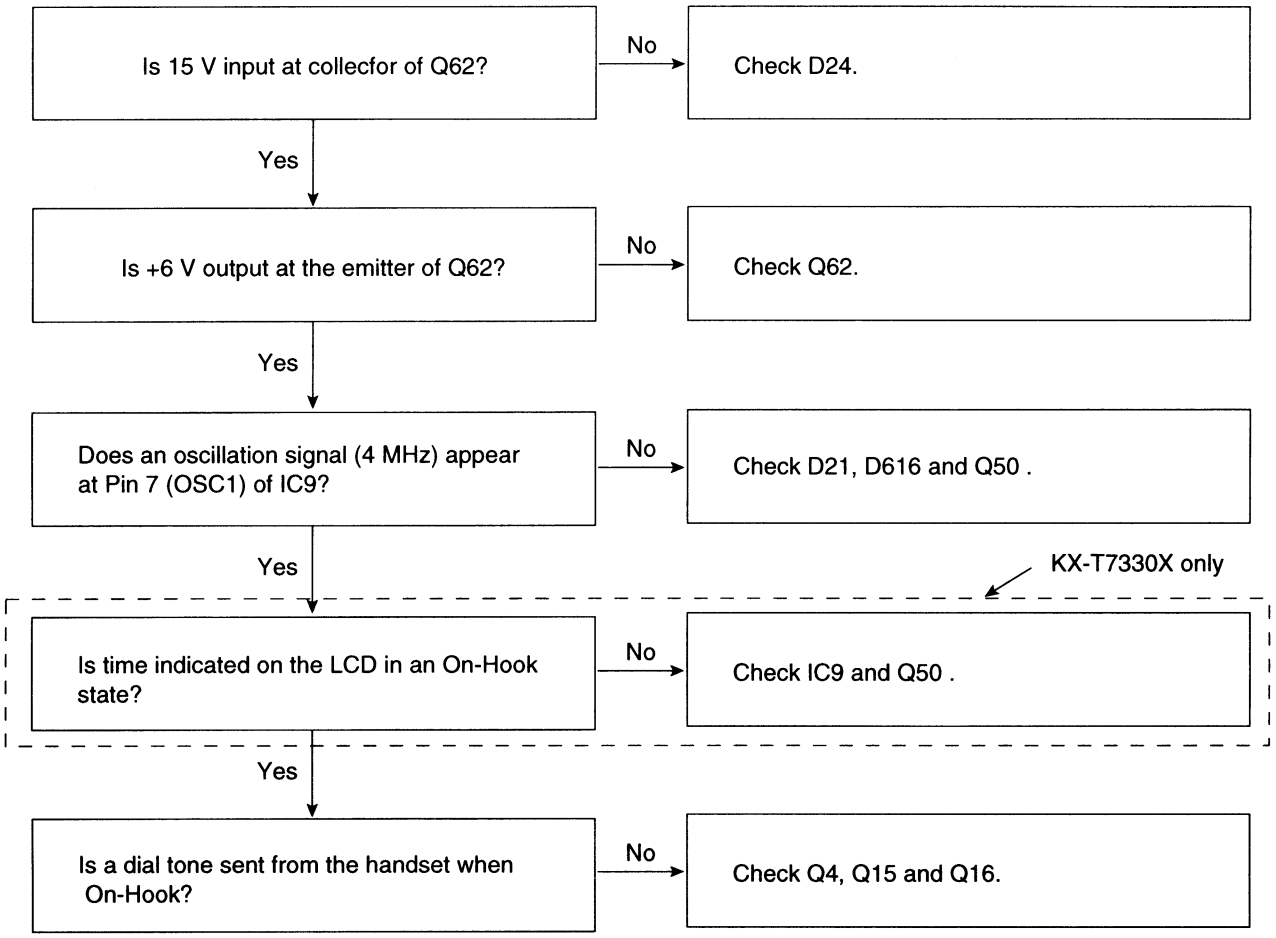


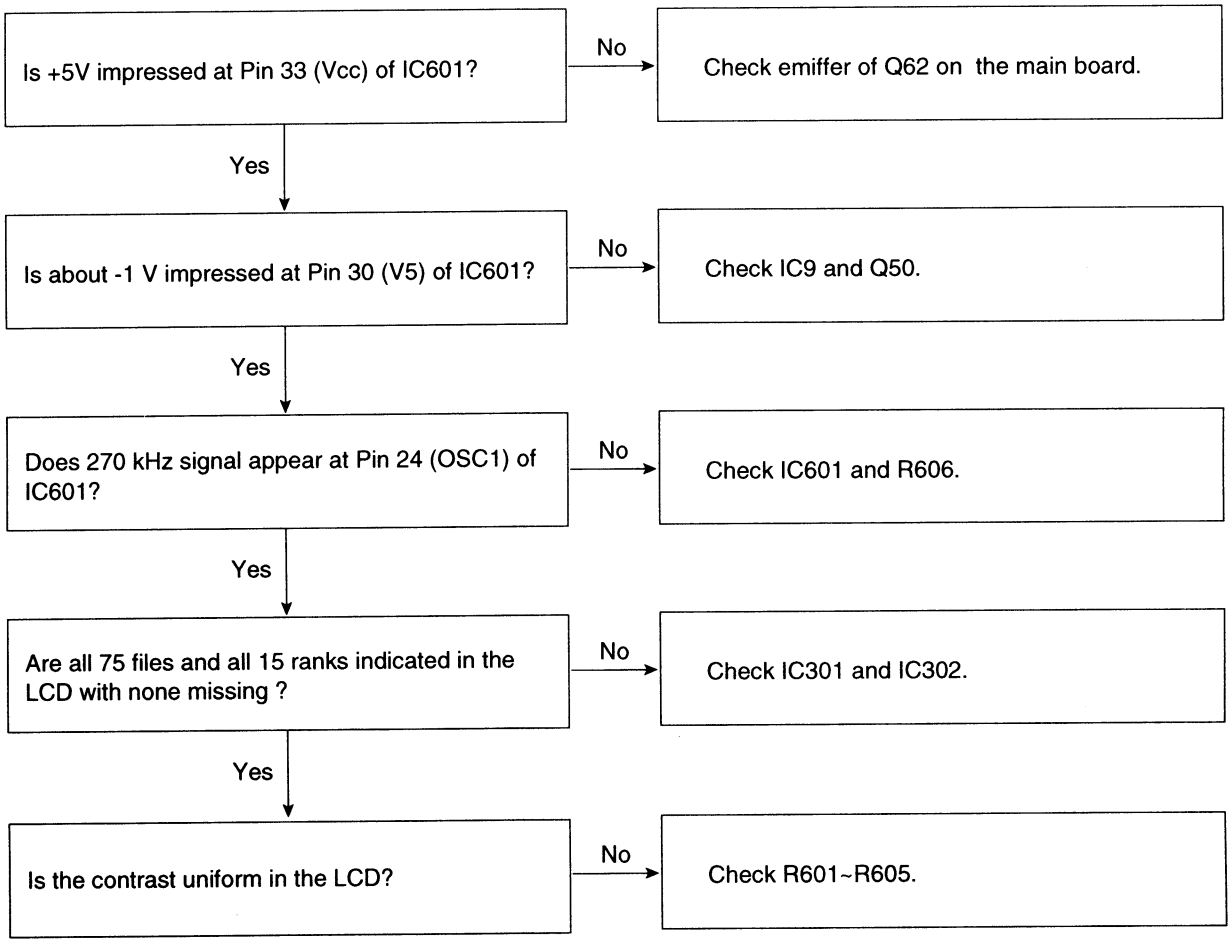
Fig. 1

TROUBLESHOOTING GUIDE

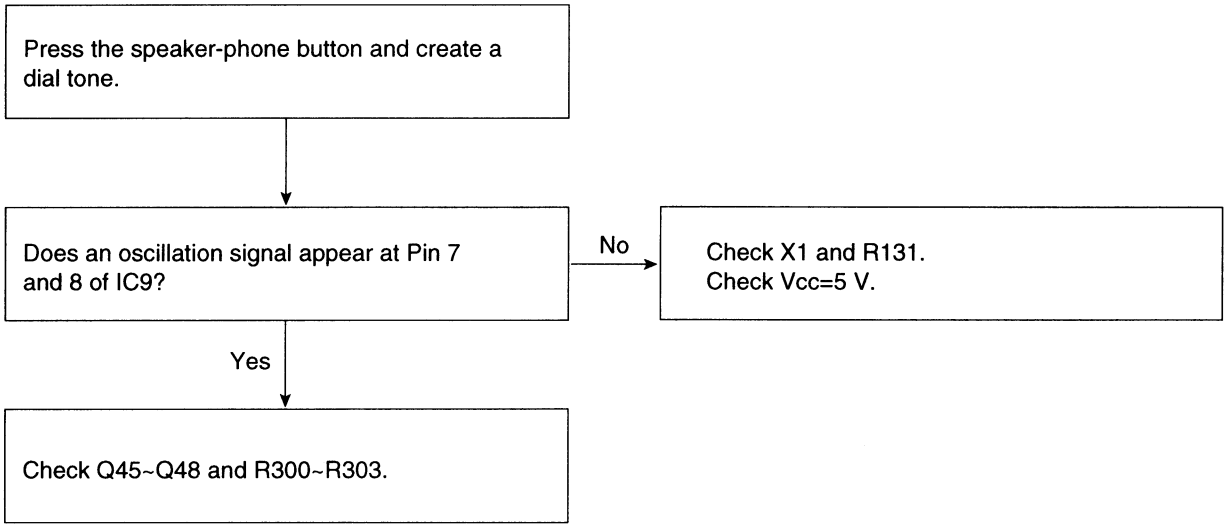
1. NO OPERATION


Is 15 V input at collecfor of Q62?
No
Check D24.
Yes
Is +6 V output at the emitter of Q62?
No
Check Q62.
Yes
Does an oscillation signal (4 MHz) appear at Pin 7 (OSC1) of IC9?
No
Check D21, D616 and Q50 .
Yes
KX-T7330X only
Is time indicated on the LCD in an On-Hook state?
No
Check IC9 and Q50 .
Yes
Is a dial tone sent from the handset when On-Hook?
No
Check Q4, Q15 and Q16.

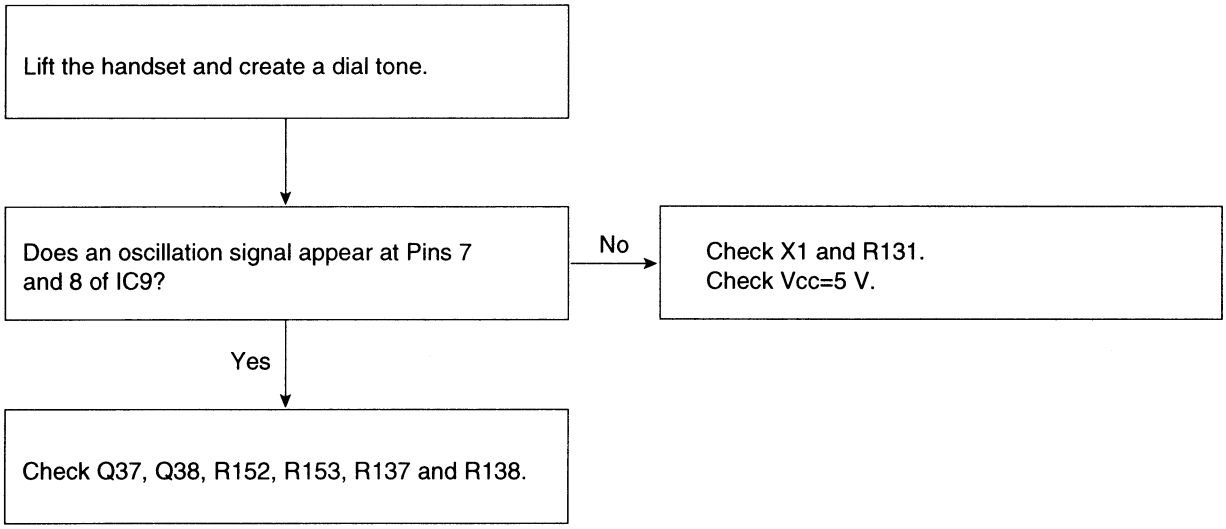
2. THE LCD DOES NOT OPERATE. (KX-T7330X only)


Is +5V impressed at Pin 33 (Vcc) of IC601?
No
Check emiffer of Q62 on the main board.
Yes
Is about -1 V impressed at Pin 30 (V5) of IC601?
No
Check IC9 and Q50.
Yes
Does 270 kHz signal appear at Pin 24 (OSC1) of IC601?
No
Check IC601 and R606.
Yes
Are all 75 files and all 15 ranks indicated in the LCD with none missing ?
No
Check IC301 and IC302.
Yes
Is the contrast uniform in the LCD?
No
Check R601~R605.

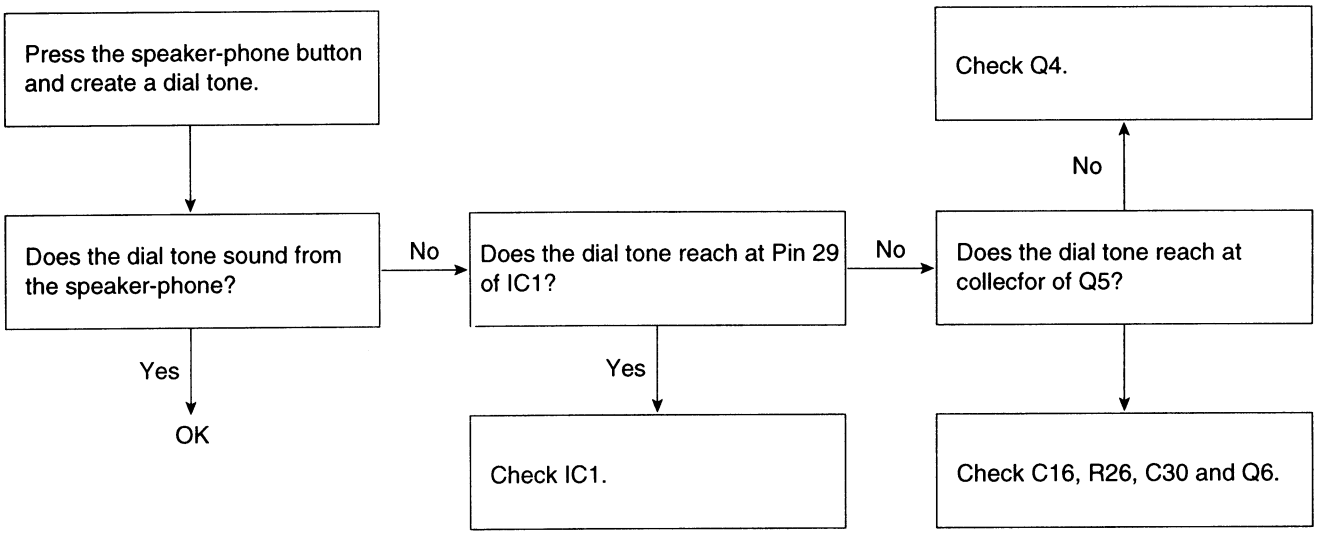
3. THE ELECTRONIC VOLUME OF THE SPEAKER-PHONE DOES NOT WORK.


Press the speaker-phone button and create a dial tone.
Does an oscillation signal appear at Pin 7 and 8 of IC9?
No
Check X1 and R131.
Check Vcc=5 V.
Yes
Check Q45~Q48 and R300~R303.

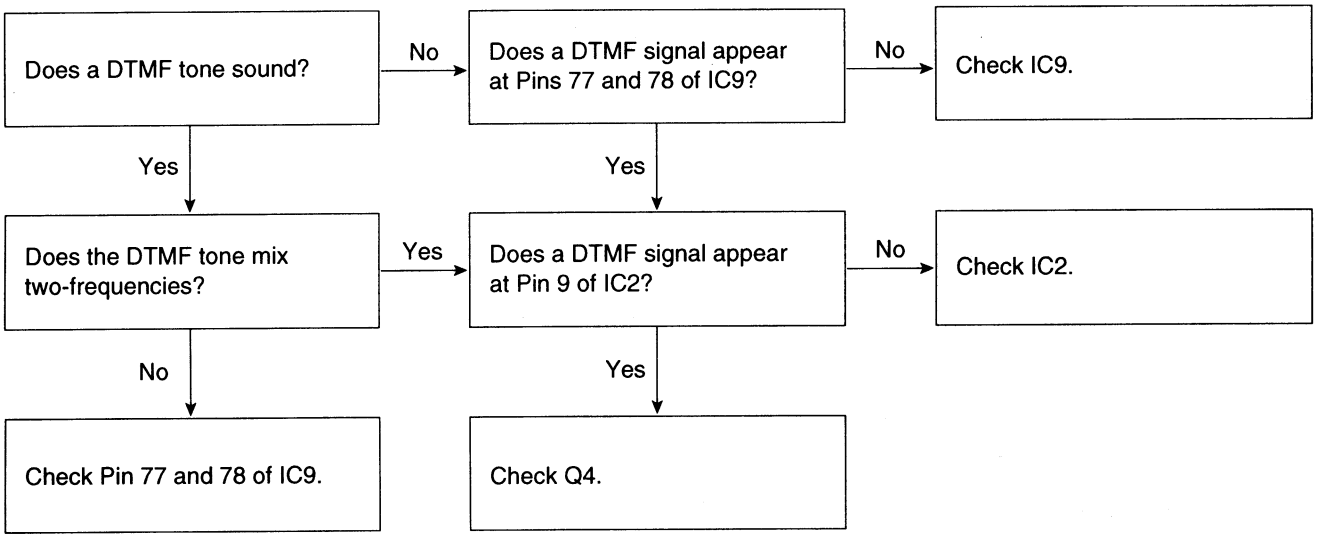
4. THE ELECTRONIC VOLUME OF HANDSET DOES NOT WORK.


Lift the handset and create a dial tone.
Does an oscillation signal appear at Pins 7 and 8 of IC9?
No
Check X1 and R131.
Check Vcc=5 V.
Yes
Check Q37, Q38, R152, R153, R137 and R138.

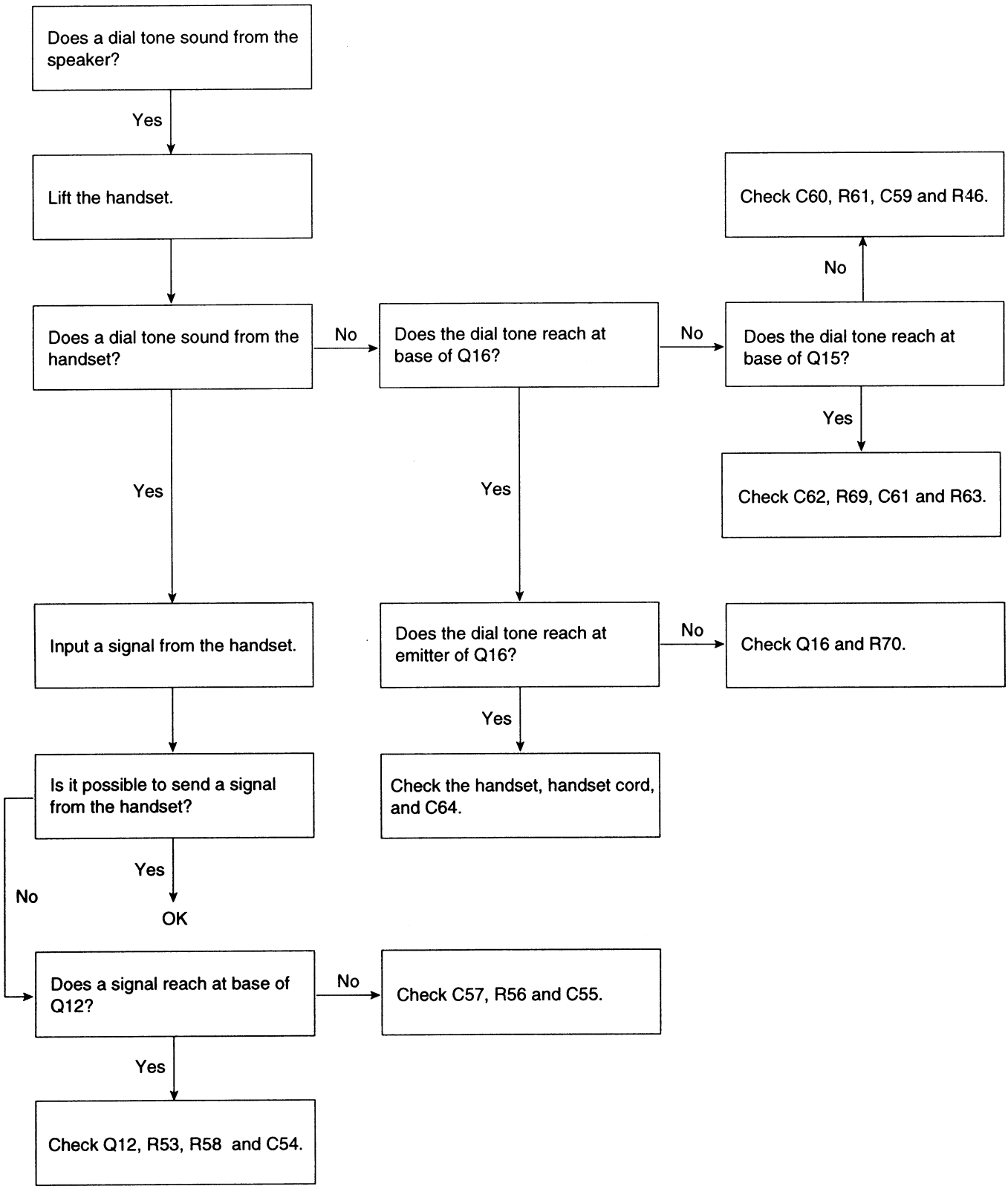
5. SPEAKER-PHONE TROUBLE.


Press the speaker-phone button and create a dial tone.
Does the dial tone sound from the speaker-phone?
No
Does the dial tone reach at Pin 29 of IC1?
No
Does the dial tone reach at collecfor of Q5?
Check Q4.
No
Yes
OK
Yes
Check IC1.
Check C16, R26, C30 and Q6.

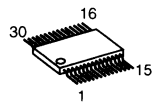
6. TONE DIAL TROUBLE.

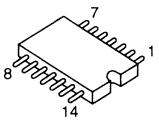


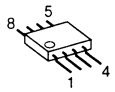
7. HANDSET TROUBLE.


Does a dial tone sound from the speaker?
Yes
Lift the handset.
Does a dial tone sound from the handset?
No
Does the dial tone reach at base of Q16?
No
Does the dial tone reach at base of Q15?
No
Check C60, R61, C59 and R46.
Yes
Check C62, R69, C61 and R63.
Yes
Yes
Input a signal from the handset.
Does the dial tone reach at emitter of Q16?
No
Check Q16 and R70.
Yes
Check the handset, handset cord, and C64.
Is it possible to send a signal from the handset?
Yes
OK
No
Does a signal reach at base of Q12?
No
Check C57, R56 and C55.
Yes
Check Q12, R53, R58 and C54.

TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES

<table>
<tr>
<td> 

PQVISC77655V</td>
<td> 

PQVITC4011BF
PQVITC4066BF</td>
<td> 

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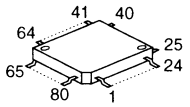
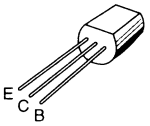
<td> 

PSVI44780B24
PSVI4688A54F</td>
<td> 

2SA1625</td>
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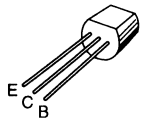
<td> 

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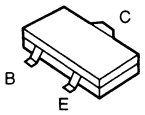
<td colspan="2"> 

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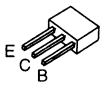
PQVTDTC123E,PQVTDTA143XU
2SD1819A,UN5213</td>
<td> 

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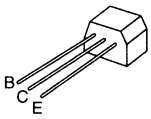
<td> 

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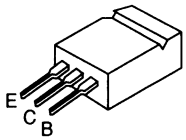
<td> 

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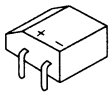
<td> 
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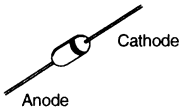
<td> 

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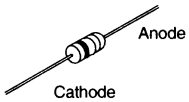
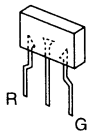
<td> 

MA4068
MA4036</td>
<td> 

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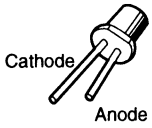
<td> 

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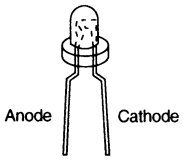
<td> 

LN376GCPX</td>
<td colspan="3"></td>
</tr>
</table>

HOW TO REPLACE FLAT PACKAGE IC

■ PREPARATION

· SOLDER - - - - - - - - Sparkle Solder 115A-1, 115B-1
OR
Almit Solder KR-19, KR-19RMA

· Soldering iron - - - - - - Recommended power consumption will be between 30 W to 40 W.
Temperature of Copper Rod 662 ± 50 °F (350 ±10℃)

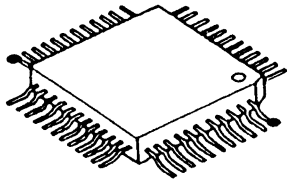
(An expert may handle 60~80 W iron, but a beginner might damage the foil by overheating.)

· Flux - - - - - - - - - - - HI115 Specific gravity 0.863

(Original flux will be replaced daily.)

■ PROCEDURE

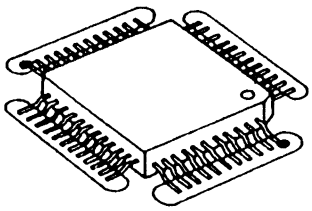
1. Temporary fix the FLAT PACKAGE IC by soldering on two marked 2 pins.



●- - - - - - -Temporary soldering point.

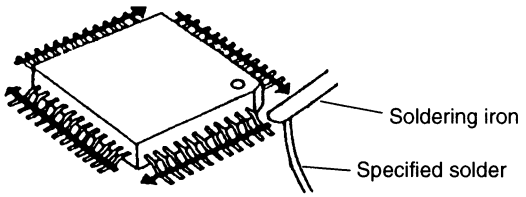
*Accurate setting of the IC to the corresponding soldering foil is vital.

2. Apply flux to the all pins of the FLAT PACKAGE IC.



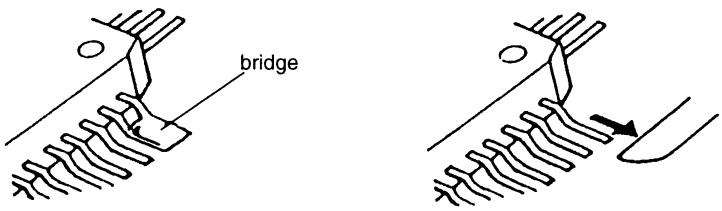
- - - - - - Flux

3. Solder the specified solder in the direction of the arrow, while sliding the soldering iron.



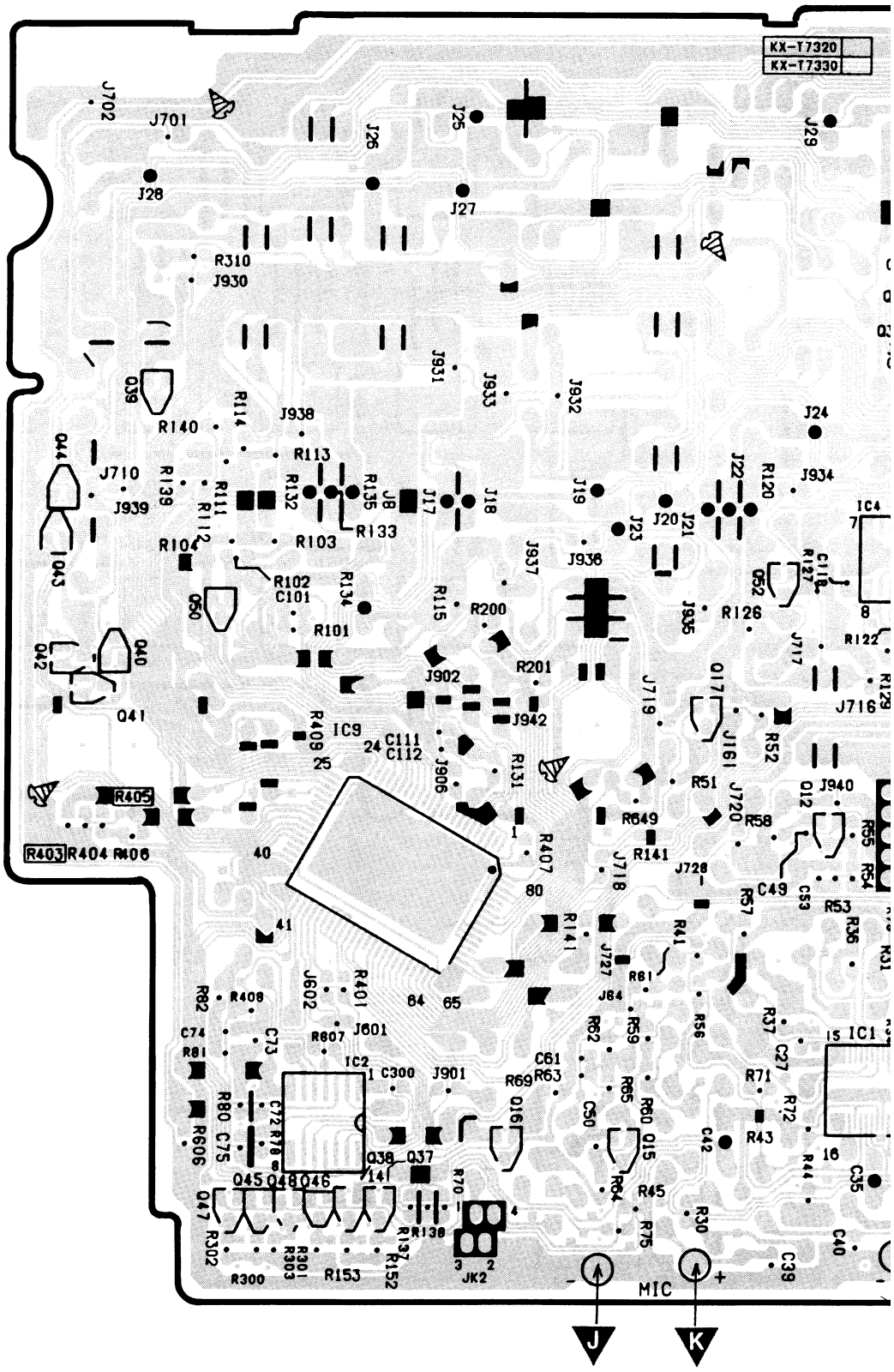
■ MODIFICATION PROCEDURE OF BRIDGE

1. Re-solder slightly on bridged portion.
2. Remove any remaining solder along the pins using a soldering iron as shown below.



PRINTED CIRCUIT BOARD (

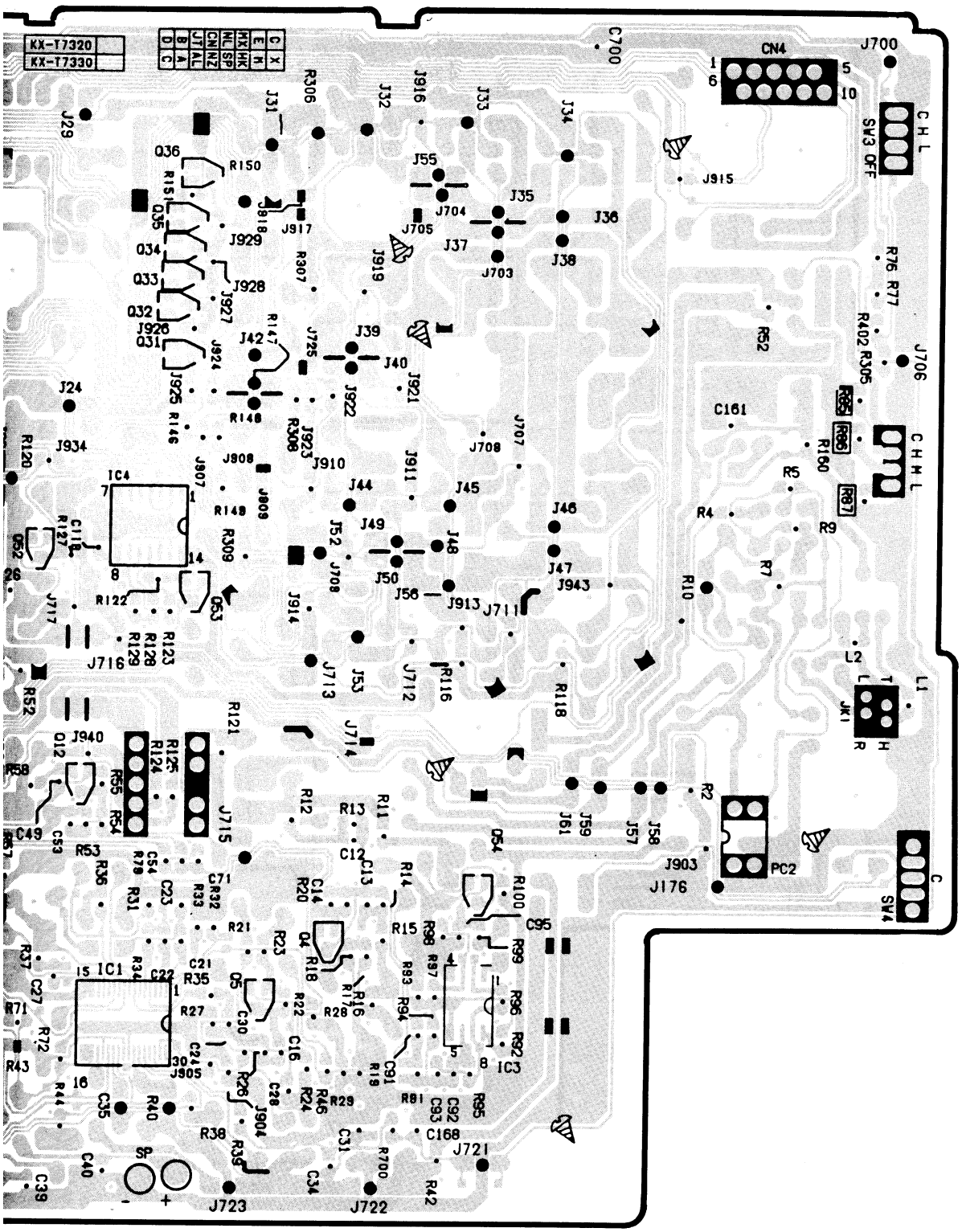
(BOTTOM VIE



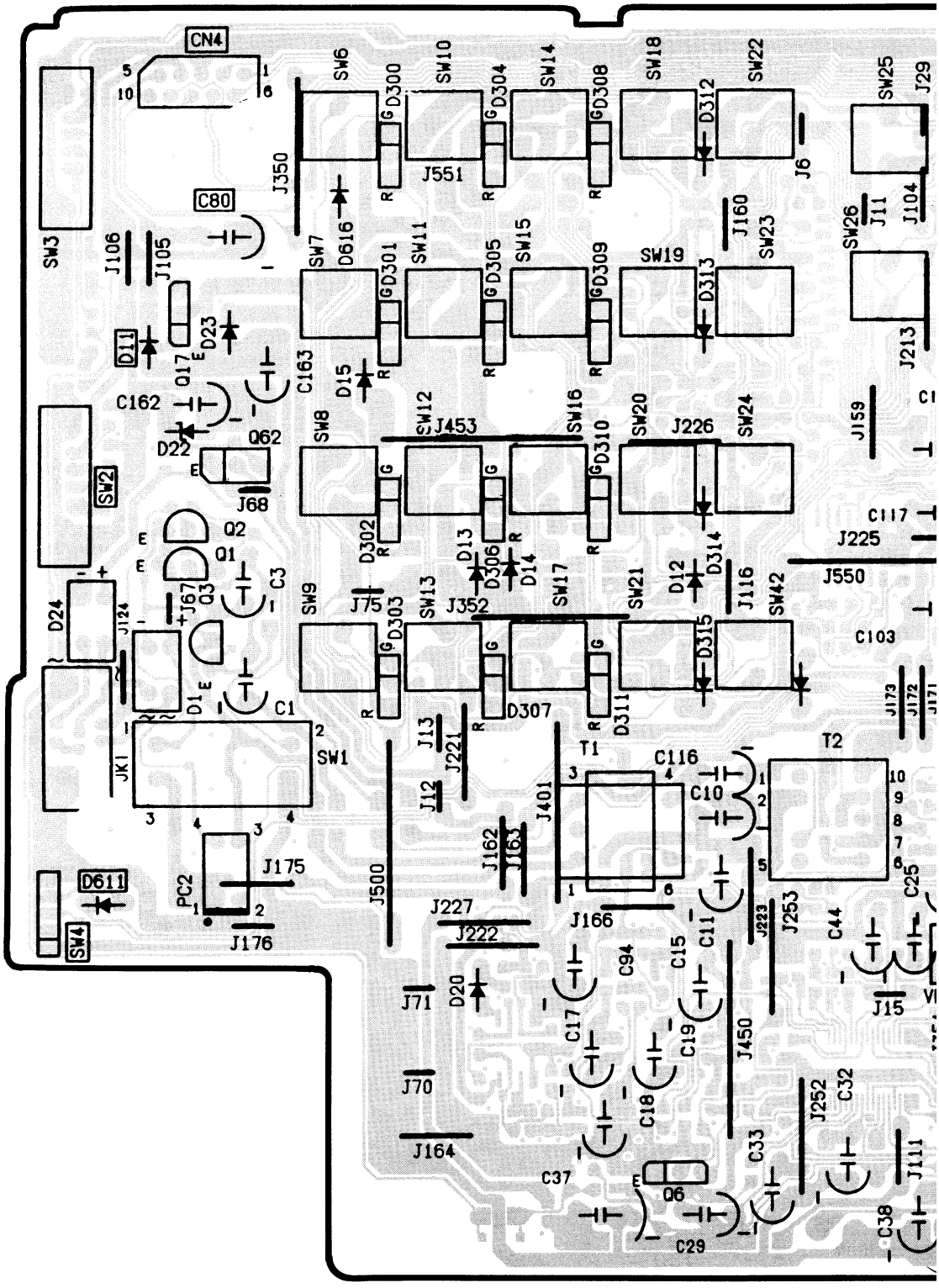
BOARD (MAIN BOARD)

7 8 9 10 11 12

(BOTTOM VIEW)



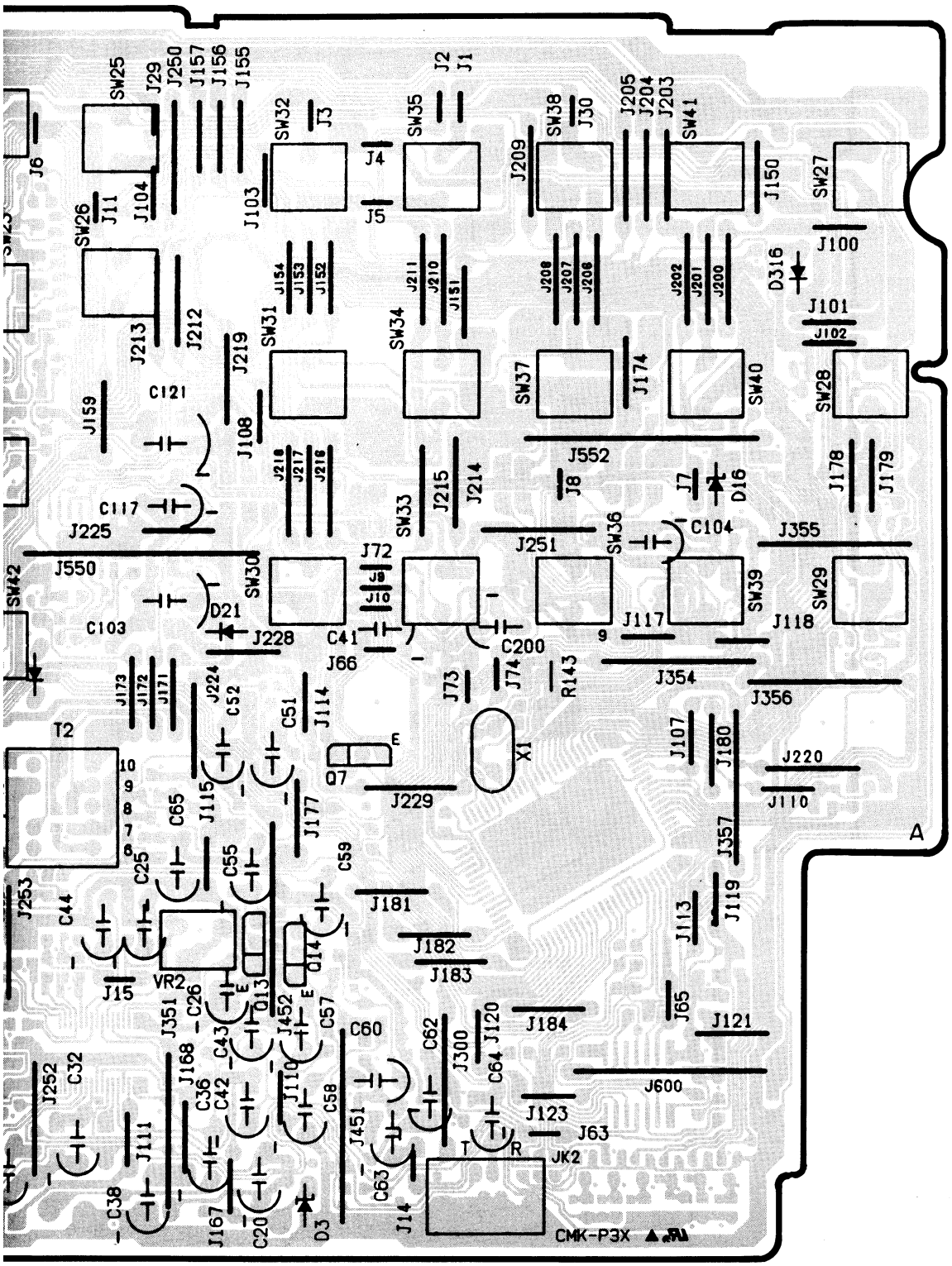
(COMPONENT VIEW)

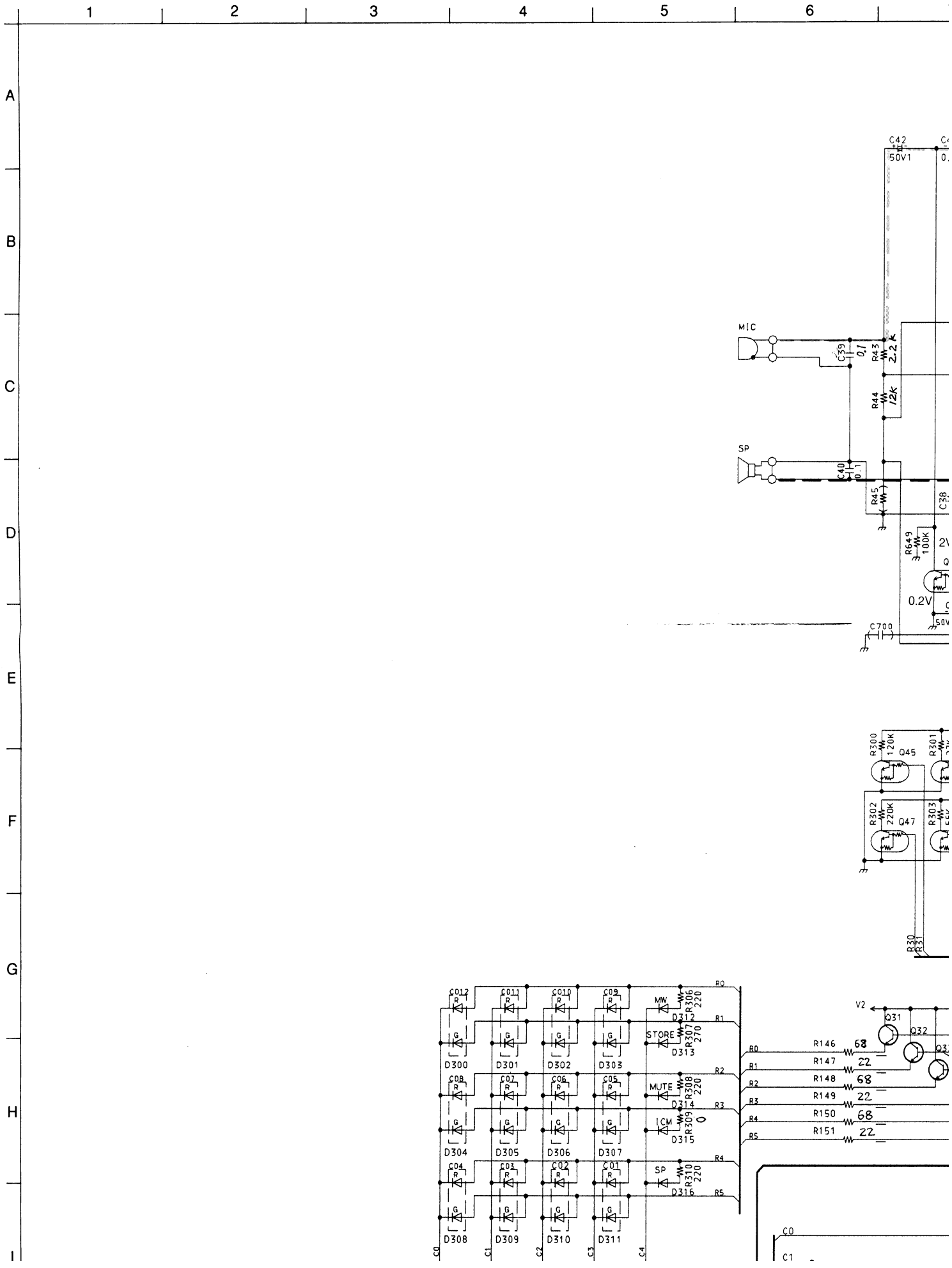


CUIT BOARD (MAIN BOARD)

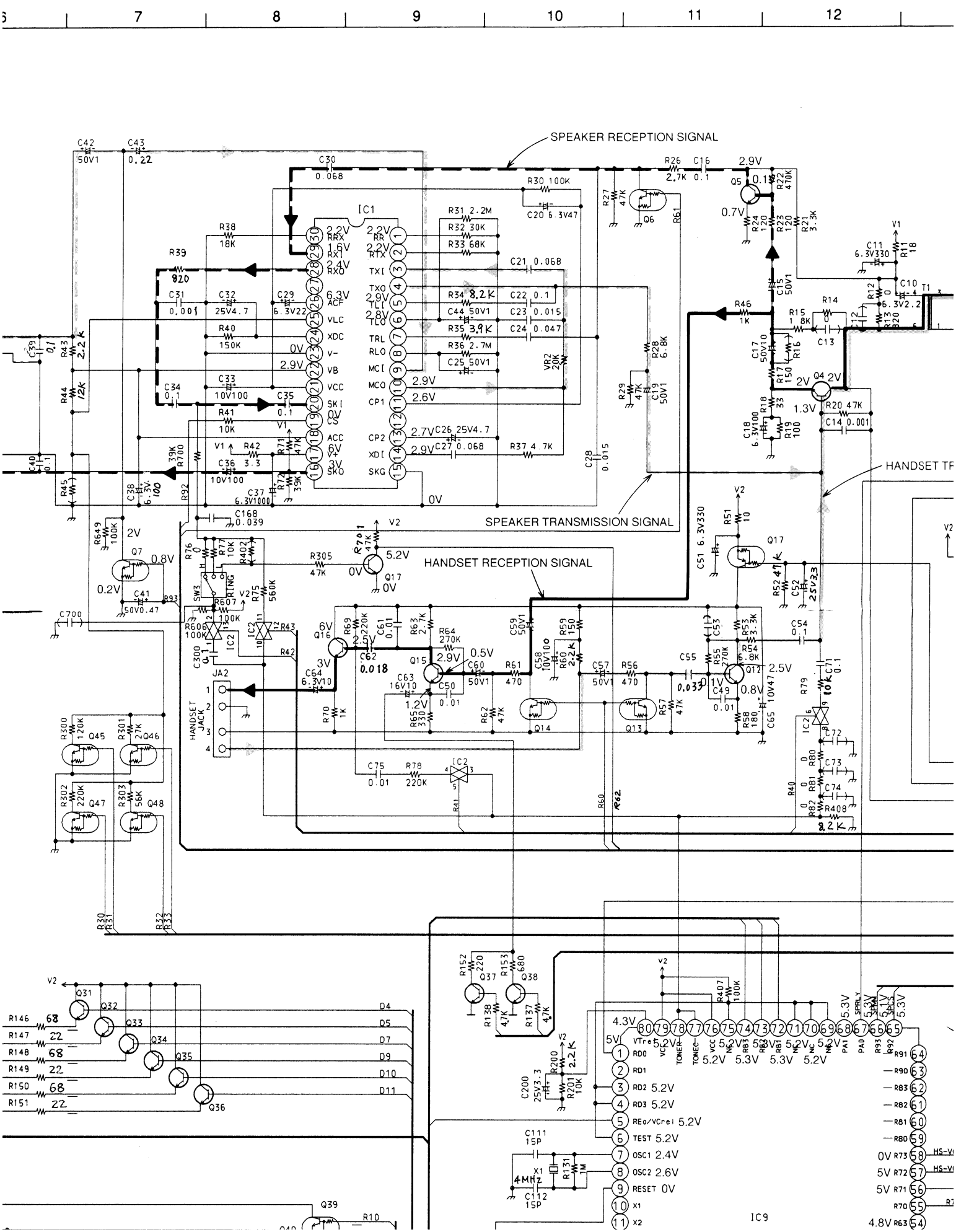
6 | 7 | 8 | 9 | 10 | 11 | 12

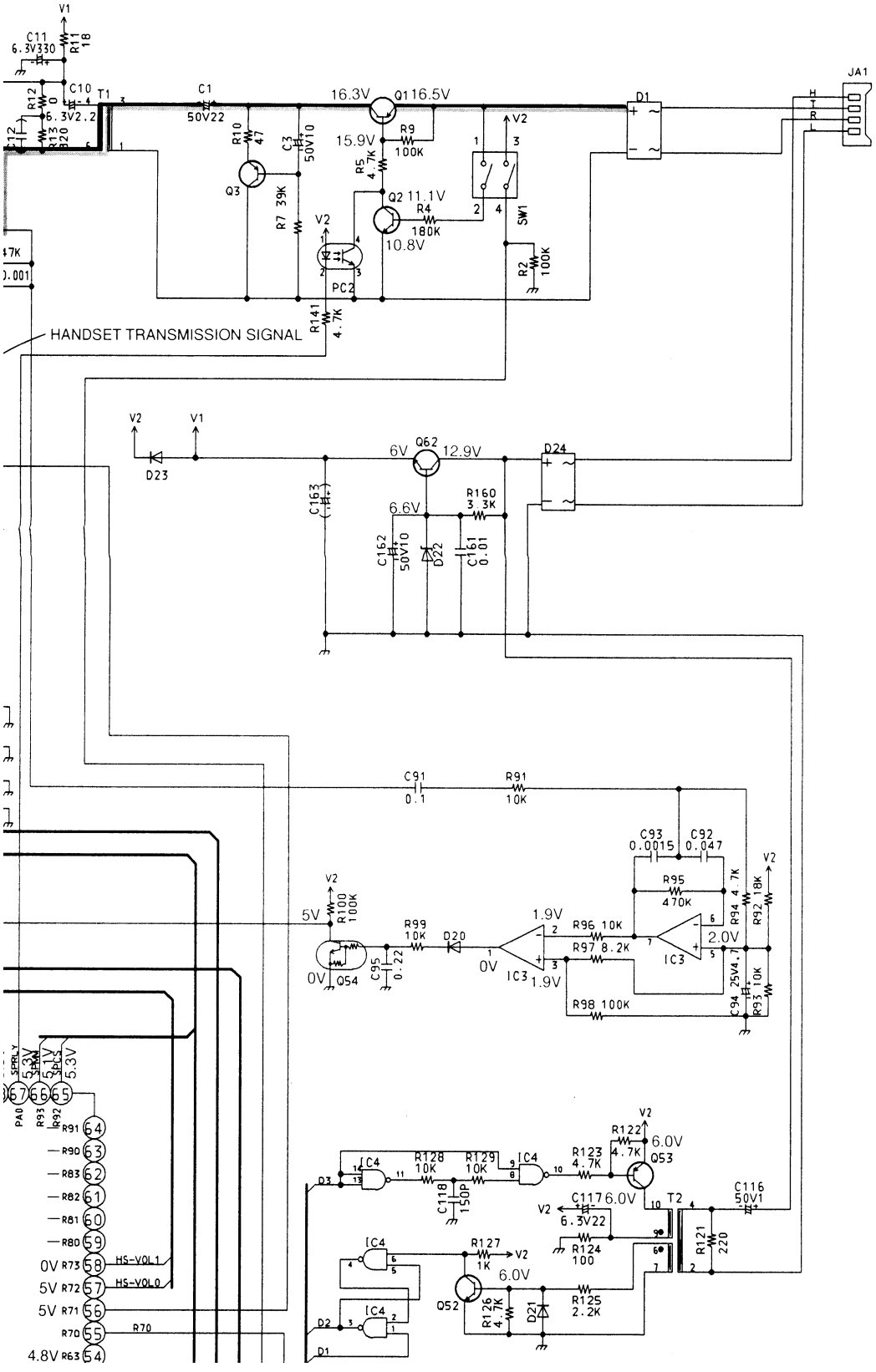
MPONENT VIEW)

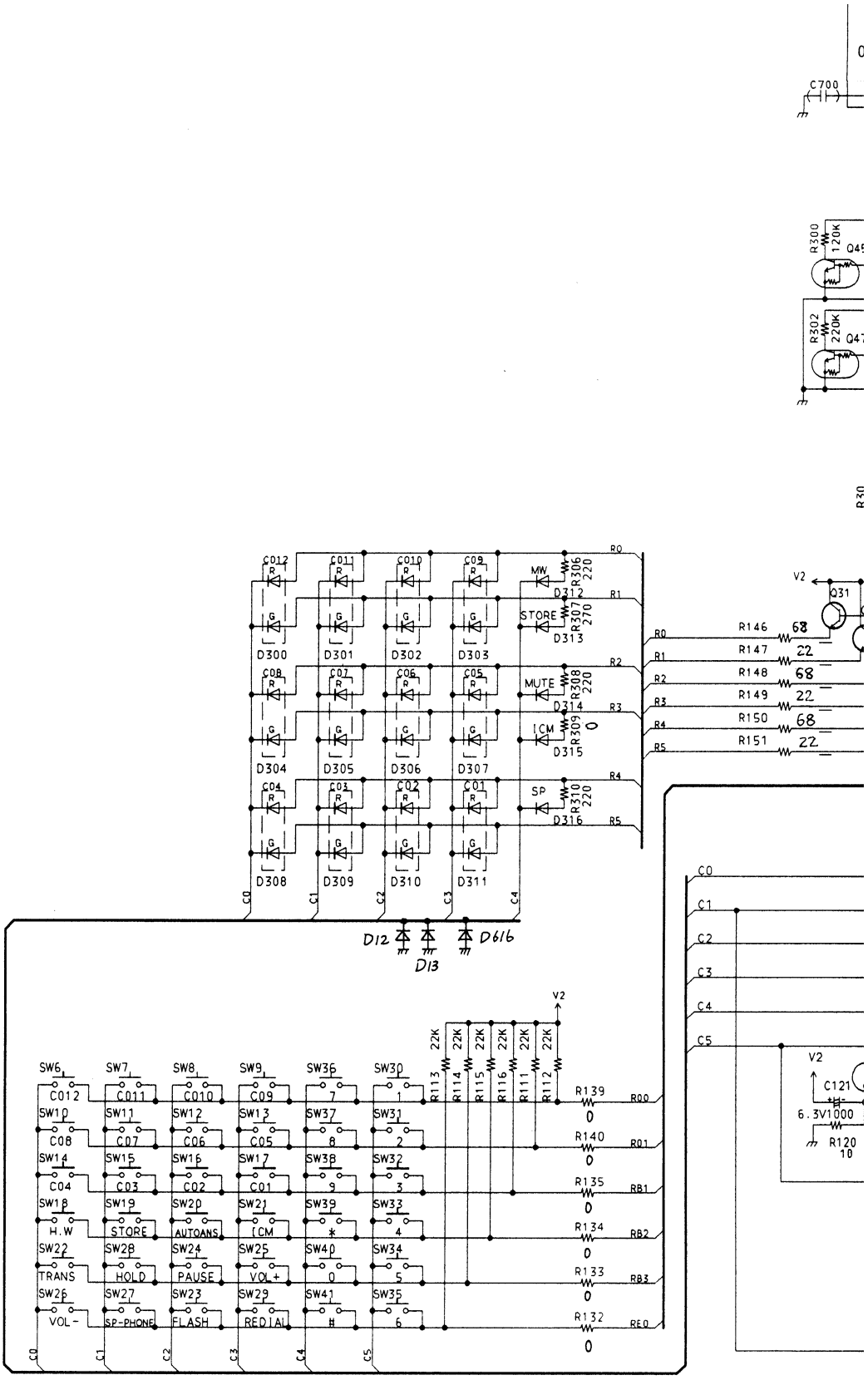


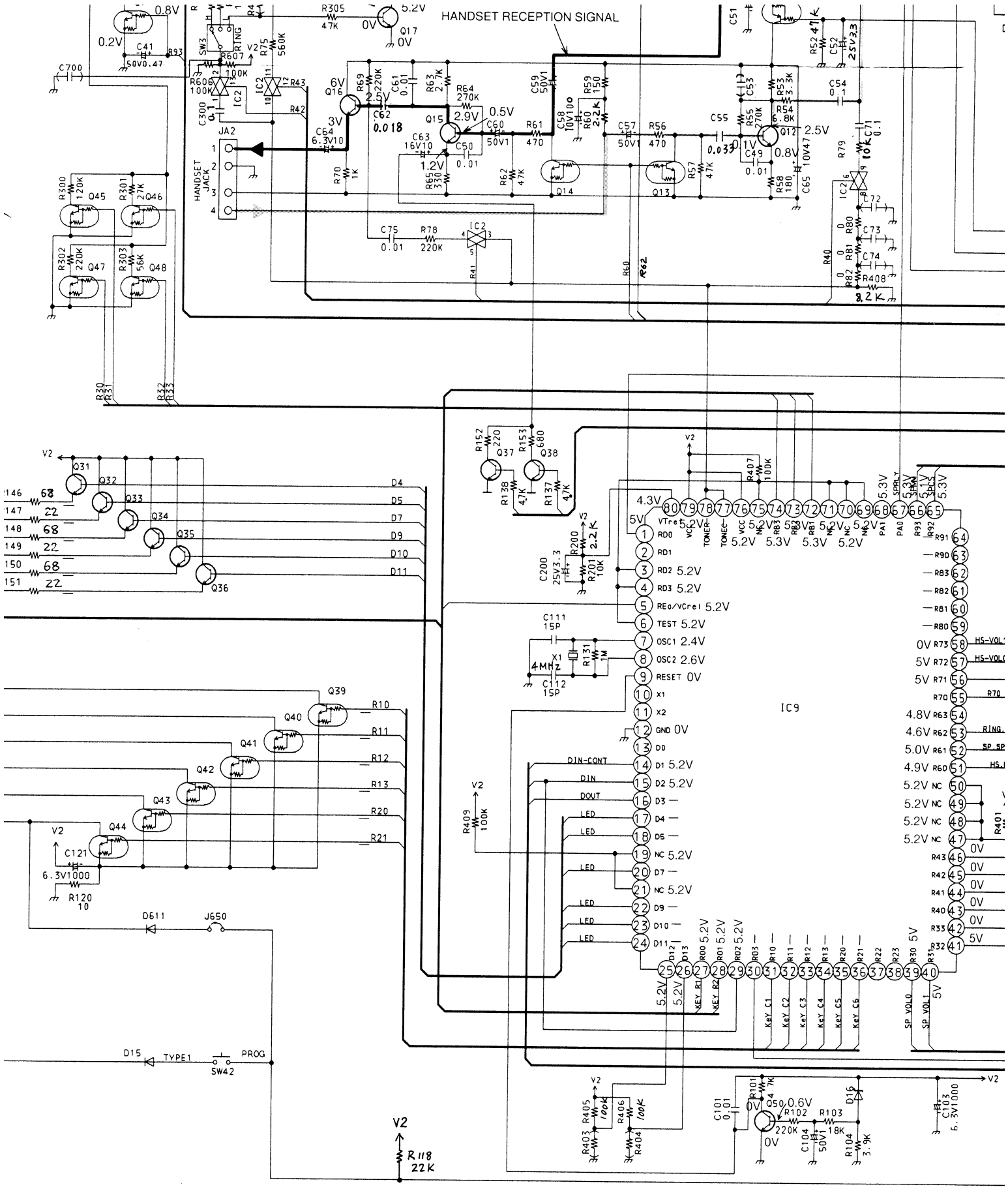

1
2
3
4
5
6
A
B
C
D
E
F
G
H
I
C42
50V1
MIC
C39
0.1
R43
2.2K
R44
12K
SP
C40
0.1
R45
C38
R649
100K
0.2V
C700
R300
120K
Q45
R301
R302
220K
Q47
R303
R30
R31
D300
D301
D302
D303
D304
D305
D306
D307
D308
D309
D310
D311
D312
D313
D314
D315
D316
MW
STORE
MUTE
ICM
SP
R306
220
R307
270
R308
220
R309
0
R310
220
R0
R1
R2
R3
R4
R5
C0
C1
C2
C3
C4
V2
Q31
Q32
R146
68
R147
22
R148
68
R149
22
R150
68
R151
22

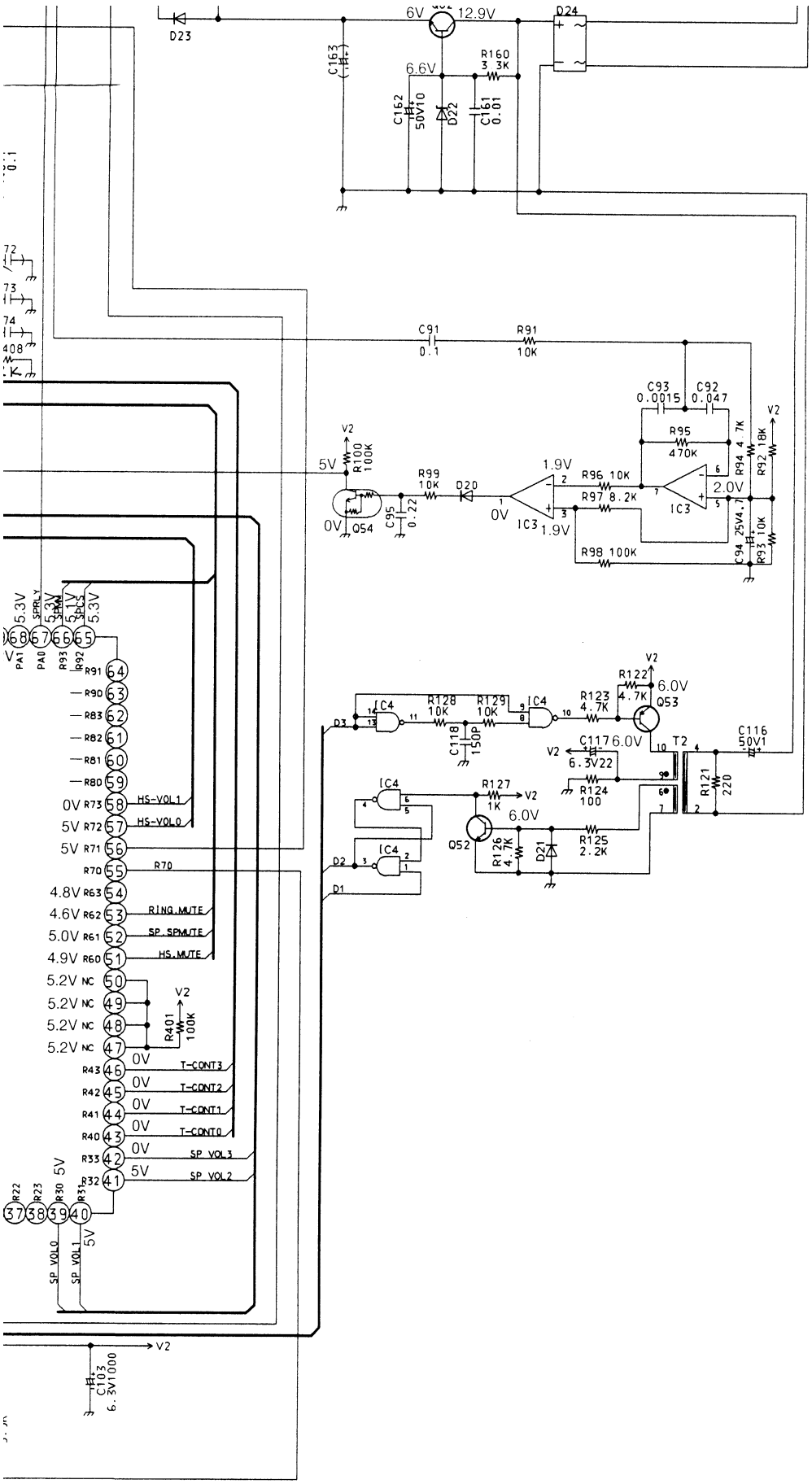
SCHEMATIC DIAGRAM (KX-T7320X)

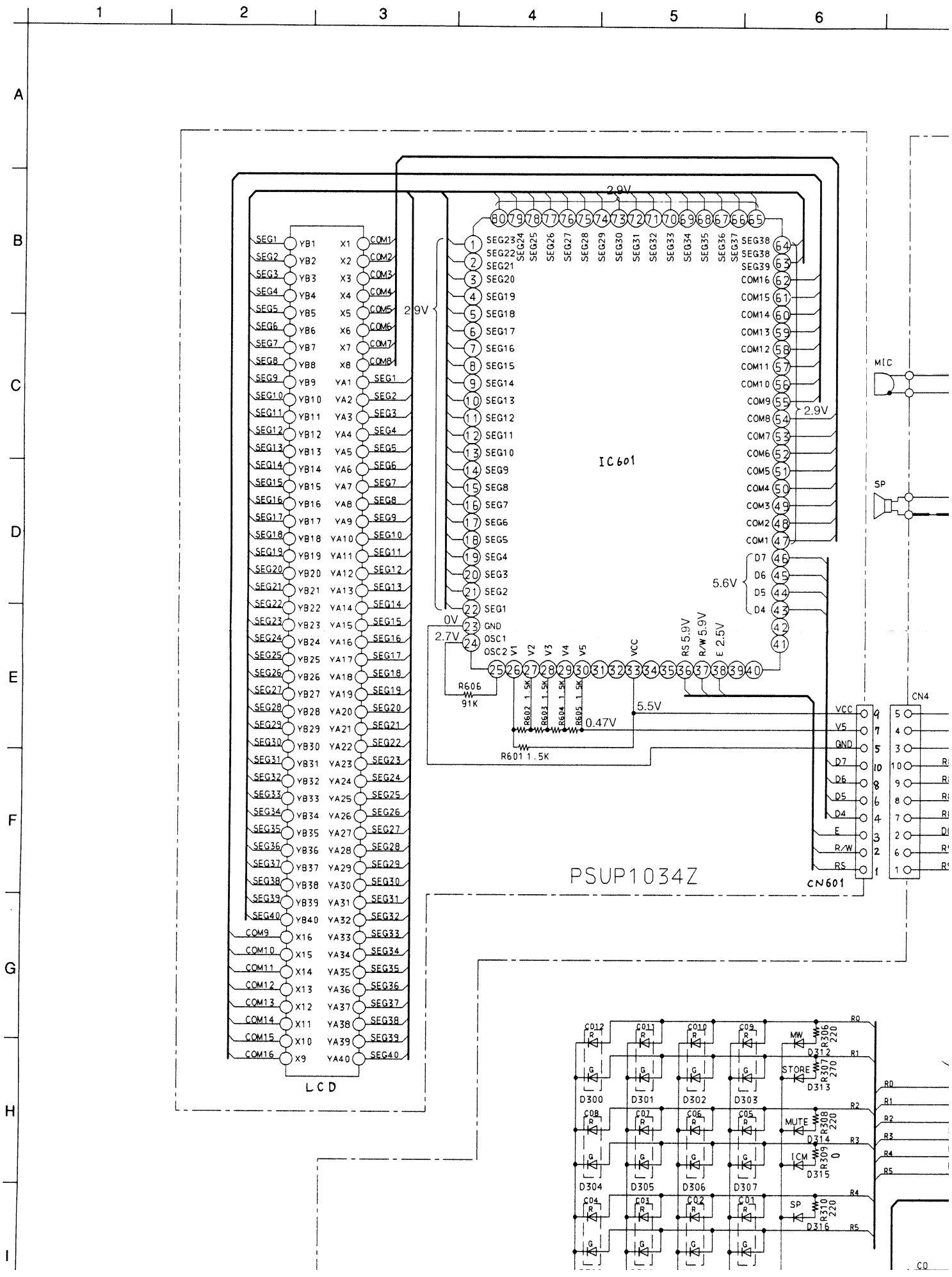



V1
C11 6.3V330
R11 18
C10
R12 0
R13
R20
6.3V2.2
T1
C1 50V22
16.3V
Q1 16.5V
D1
JA1
R10 47
C3 50V10
15.9V
R9 100K
R5 4.7K
Q3
R7 39K
Q2 11.1V
R4 180K
10.8V
V2
SW1
PC2
R2 100K
R141 4.7K
HANDSET TRANSMISSION SIGNAL
D23
6V
Q62
12.9V
D24
C163
R160 3.3K
6.6V
C162 50V10
D22
C161 0.01
C91 0.1
R91 10K
C93 0.0015
C92 0.047
R95 470K
R94 4.7K
R92 18K
5V
R100 100K
R99 10K
D20
1.9V
R96 10K
2.0V
R97 8.2K
IC3
0V
Q54
C95 0.22
R98 100K
C94 25V4.7
R93 10K
SUPPLY
5.3V
5.1V
5.3V
PA0
R91 64
R90 63
R89 62
R88 61
R81 60
R80 59
0V R73 58 HS-VOL1
5V R72 57 HS-VOL0
5V R71 56
R70 55 R70
4.8V R63 54
IC4
R128 10K
R129 10K
R123 4.7K
Q53
R122 4.7K
6.0V
C118 150P
C117 6.0V
6.3V22
T2
C116 50V1
R121 220
R124 100
R127 1K
Q52
R126 4.7K
D21
R125 2.2K
D3
D2
D1

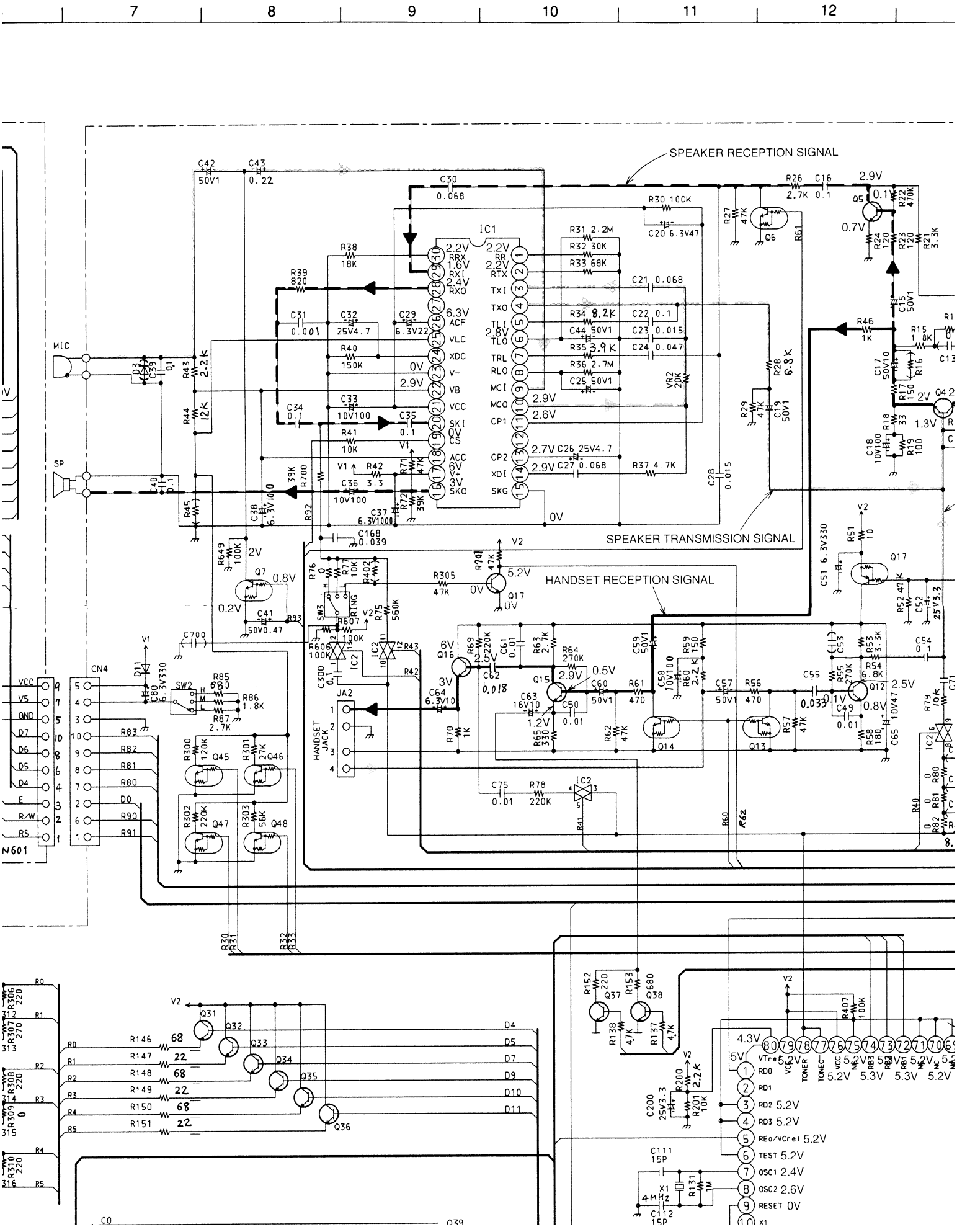

C700
R300
120K
Q45
R302
220K
Q47
D300
D301
D302
D303
D304
D305
D306
D307
D308
D309
D310
D311
MW
D312
STORE
D313
MUTE
D314
ICM
D315
SP
D316
R306 220
R307 270
R308 220
R309 0
R310 220
V2
Q31
R146 68
R147 22
R148 68
R149 22
R150 68
R151 22
D12
D13
D616
SW6 C012
SW7 C011
SW8 C010
SW9 C09
SW36 7
SW30 1
SW10 C08
SW11 C07
SW12 C06
SW13 C05
SW37 8
SW31 2
SW14 C04
SW15 C03
SW16 C02
SW17 C01
SW38 9
SW32 3
SW18 H.W
SW19 STORE
SW20 AUTOANS
SW21 ICM
SW39 *
SW33 4
SW22 TRANS
SW28 HOLD
SW24 PAUSE
SW25 VOL+
SW40 0
SW34 5
SW26 VOL-
SW27 SP-PHONE
SW23 FLASH
SW29 REDIAL
SW41 #
SW35 6
22K
R113
R114
R115
R116
R111
R112
R139 0
R140 0
R135 0
R134 0
R133 0
R132 0
C121
6.3V1000
R120 10

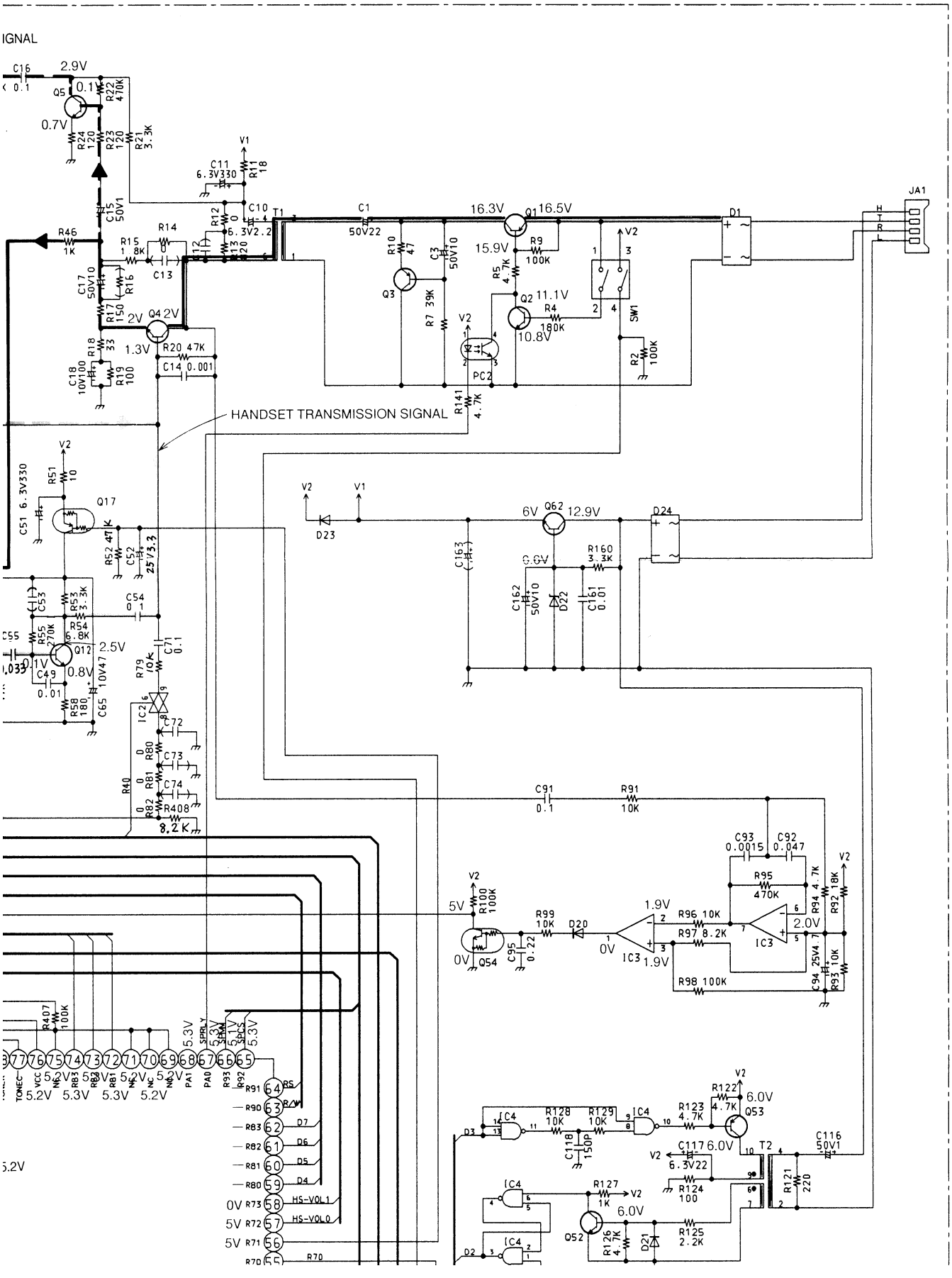

HANDSET RECEPTION SIGNAL
IC9
D4
D5
D7
D9
D10
D11
D15
TYPE1
PROG
SW42
D611
J650
V2
R118
22K
4MHz
HANDSET JACK

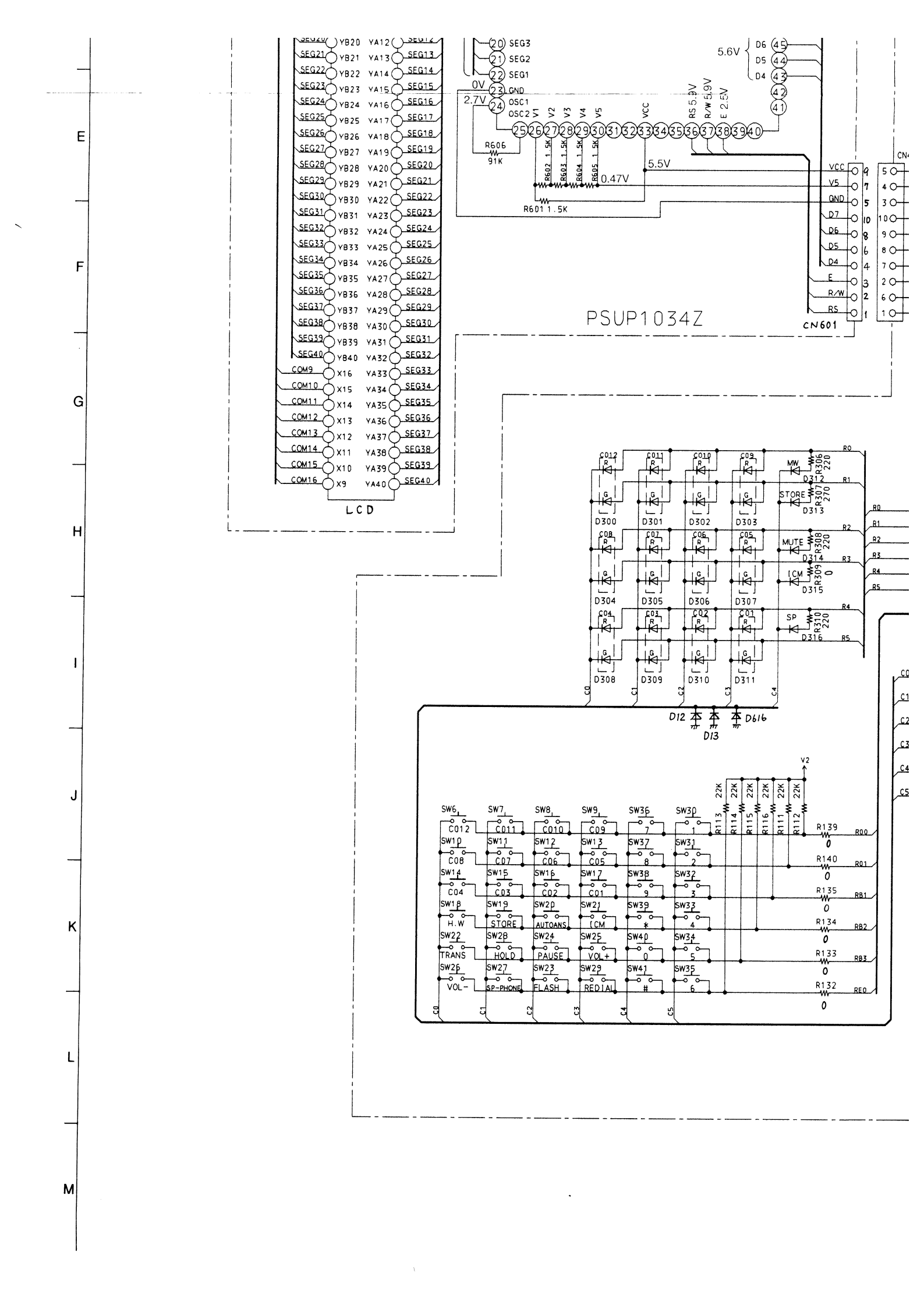

D23
6V
12.9V
D24
C163
R160
3.3K
6.6V
C162
50V10
D22
C161
0.01
C91
0.1
R91
10K
C93
0.0015
C92
0.047
R95
470K
R94 4.7K
R92 18K
V2
5V
R100
100K
R99
10K
D20
1.9V
R96 10K
R97 8.2K
2.0V
IC3
0V
Q54
C95
0.22
1.9V
R98 100K
C94 25V4.7
R93 10K
5.3V
5.3V
5.1V
5.3V
PA1
PA0
R93
R92
R91 64
R90 63
R83 62
R82 61
R81 60
R80 59
0V R73 58 HS-VOL1
5V R72 57 HS-VOL0
5V R71 56
R70 55 R70
4.8V R63 54
4.6V R62 53 RING.MUTE
5.0V R61 52 SP.SPMUTE
4.9V R60 51 HS.MUTE
5.2V NC 50
5.2V NC 49
5.2V NC 48
5.2V NC 47
R401
100K
0V R43 46 T-CONT3
0V R42 45 T-CONT2
0V R41 44 T-CONT1
0V R40 43 T-CONT0
0V R33 42 SP VOL3
5V R32 41 SP VOL2
R22 37
R23 38
R30 39
R31 40
5V
SP VOL0
SP VOL1
5V
V2
C103
6.3V1000
IC4
R128
10K
R129
10K
IC4
R123
4.7K
R122
4.7K
6.0V
Q53
D3
C118
150P
C117
6.0V
6.3V22
T2
C116
50V1
R124
100
R121
220
IC4
R127
1K
V2
6.0V
Q52
R126
4.7K
D21
R125
2.2K
D2
D1

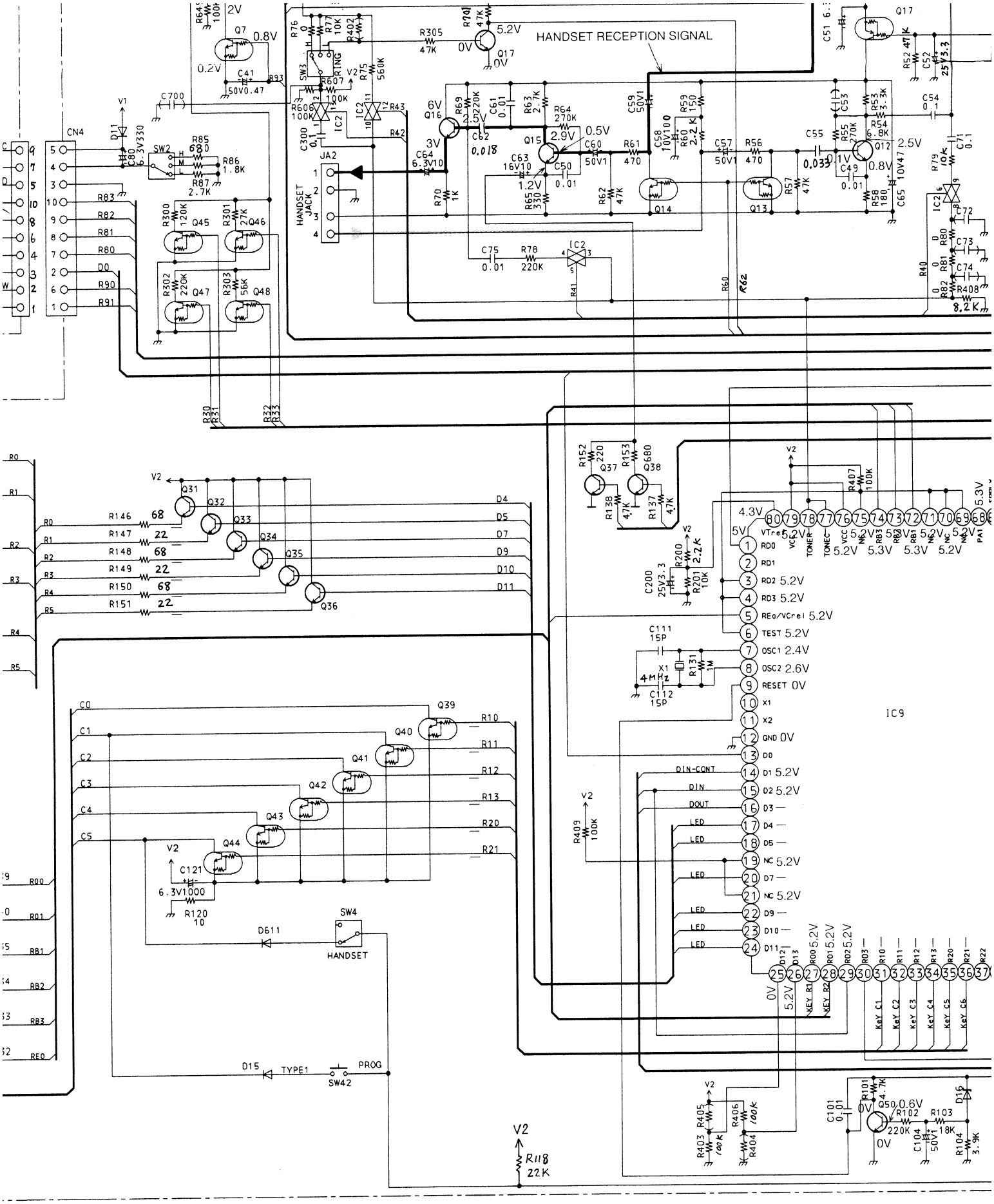

IC601
LCD
PSUP1034Z
CN601
CN4
MIC
SP
2.9V
5.6V
5.5V
0.47V
2.7V
0V
R606 91K
R601 1.5K
R602 1.5K
R603 1.5K
R604 1.5K
R605 1.5K
VCC
V5
GND
D7
D6
D5
D4
E
R/W
RS
MW
STORE
MUTE
ICM
SP
D300
D301
D302
D303
D304
D305
D306
D307
D312
D313
D314
D315
D316

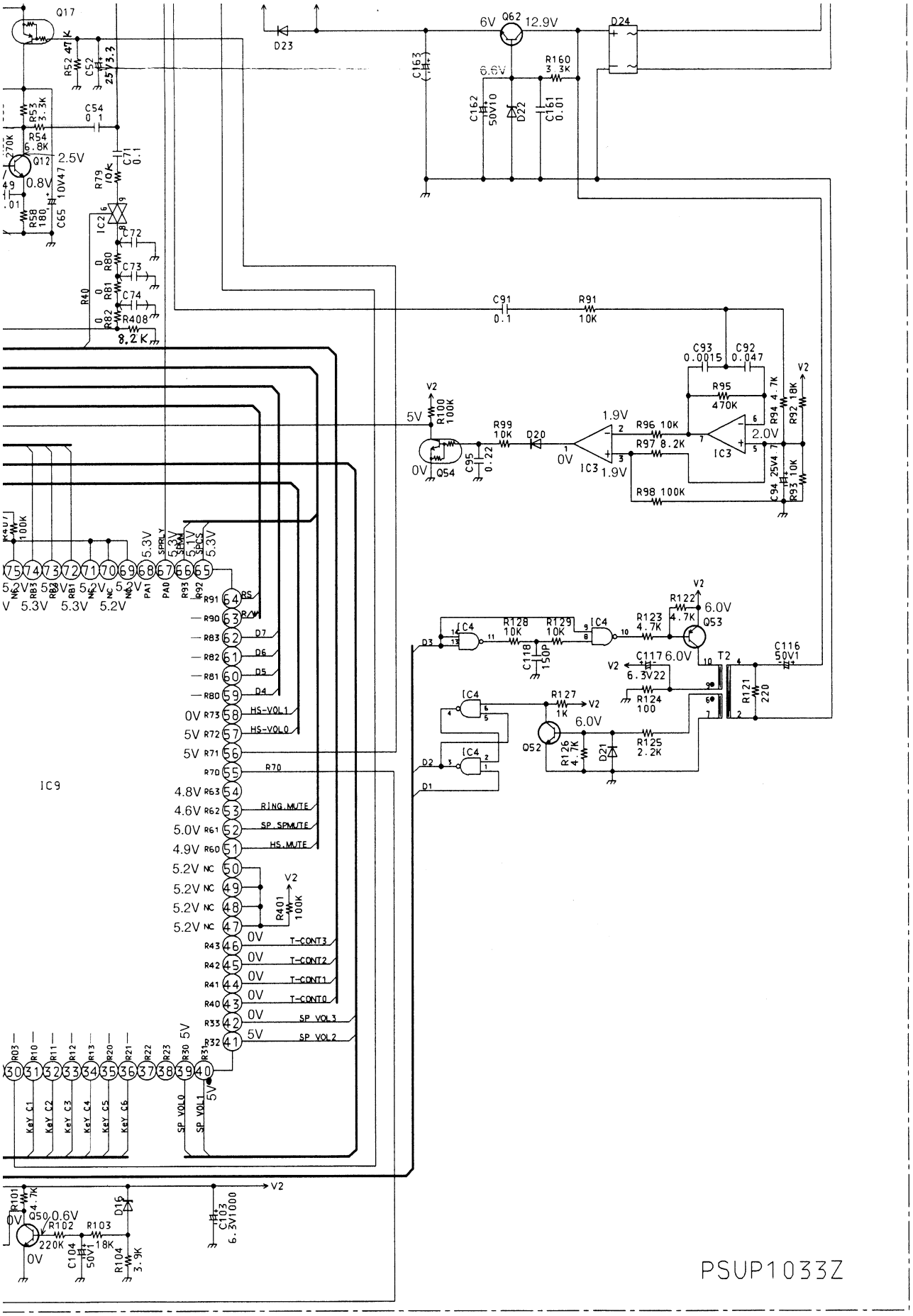
SCHEMATIC DIAGRAM (KX-T7330X)



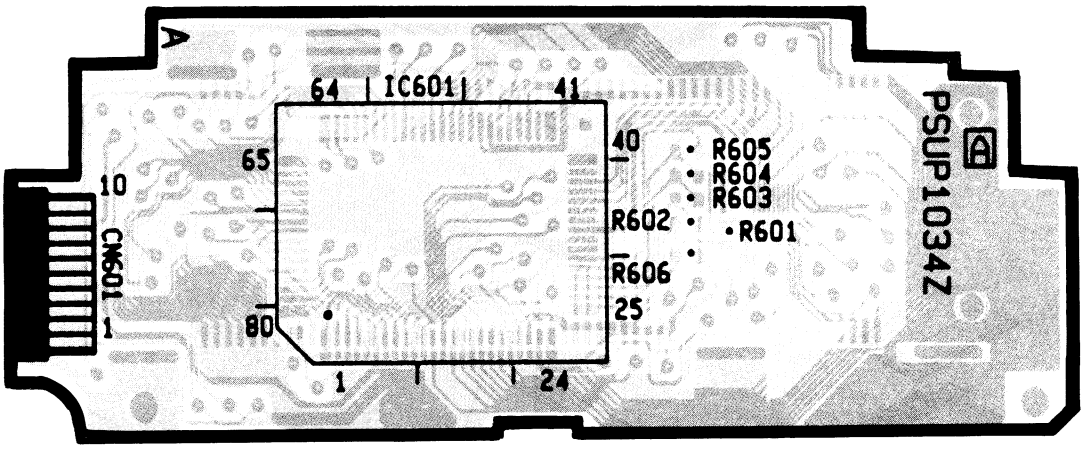

IGNAL
HANDSET TRANSMISSION SIGNAL
JA1
SW1
IC2
IC3
IC4
Q1
Q2
Q3
Q4
Q5
Q12
Q17
Q52
Q53
Q54
Q62
D1
D20
D21
D22
D23
D24
T1
T2
PC2
TONEC
HS-VOL1
HS-VOL0


PSUP1034Z
LCD
CN601
D12
D13
D616
MW
STORE
MUTE
ICM
SP
HOLD
PAUSE
AUTOANS
REDIAL
FLASH
SP-PHONE
TRANS
VOL+
VOL-
5.6V
5.5V
0.47V
0V
2.7V
R606 91K
R601 1.5K

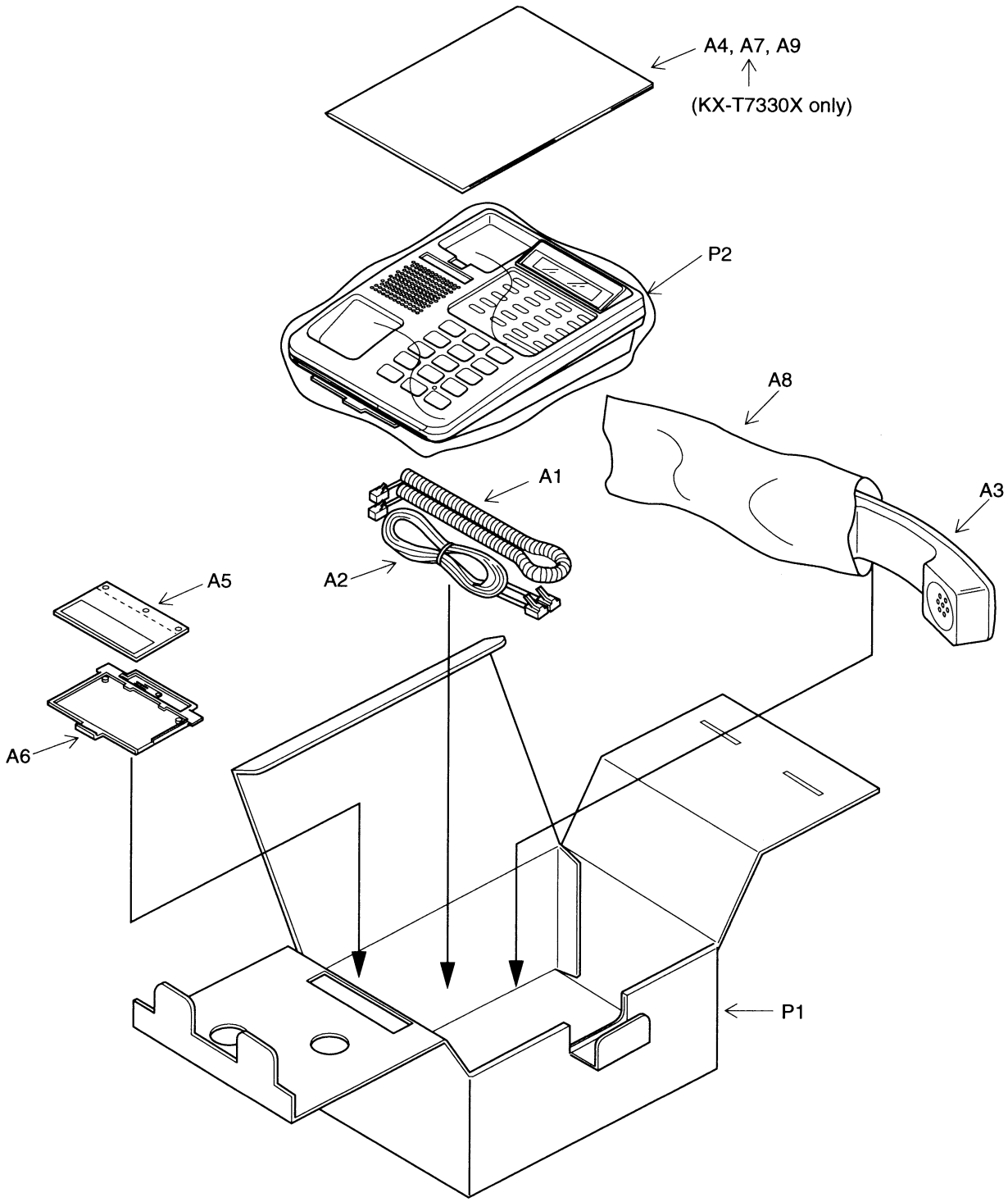

HANDSET RECEPTION SIGNAL
IC9
HANDSET
HANDSET JACK
RING
PROG
TYPE1
SW42
SW4
D611
D15
X1
4MHz
R118
22K
R120
10
R200
2.2K
R201
10K
R409
100K
R407
100K
R408
8.2K
R118
22K


Q17
D23
6V Q62 12.9V
D24
R160 3.3K
C163
C162 50V10
D22
C161 0.01
R52 47K
C52 25V3.3
C54 0.1
R53 3.3K
R54 6.8K
270K
Q12 2.5V
0.8V
C71 0.1
R79 10K
C65 10V47
R58 180
IC2
C72
C73
C74
R80 0
R81 0
R82 0
R40
R408 8.2K
C91 0.1
R91 10K
C93 0.0015
C92 0.047
R95 470K
R94 4.7K
R92 18K
V2
5V
R100 100K
R99 10K
D20
1.9V
R96 10K
R97 8.2K
2.0V
IC3
0V Q54
C95 0.22
0V
IC3 1.9V
R98 100K
C94 25V4.7
R93 10K
R401 100K
IC9
R91 64 RS
R90 63 R/W
R83 62 D7
R82 61 D6
R81 60 D5
R80 59 D4
0V R73 58 HS-VOL1
5V R72 57 HS-VOL0
5V R71 56
R70 55 R70
4.8V R63 54
4.6V R62 53 RING.MUTE
5.0V R61 52 SP.SPMUTE
4.9V R60 51 HS.MUTE
5.2V NC 50
5.2V NC 49
5.2V NC 48
5.2V NC 47
R43 46 0V T-CONT3
R42 45 0V T-CONT2
R41 44 0V T-CONT1
R40 43 0V T-CONT0
R33 42 0V SP VOL3
R32 41 5V SP VOL2
5V
KEY C1
KEY C2
KEY C3
KEY C4
KEY C5
KEY C6
SP VOL0
SP VOL1
IC4
R128 10K
R129 10K
R123 4.7K
R122 4.7K
6.0V
Q53
C118 150P
C117 6.0V
6.3V22
C116 50V1
T2
R124 100
R121 220
R127 1K
6.0V
Q52
R126 4.7K
D21
R125 2.2K
D3
D2
D1
R101 4.7K
0V Q50 0.6V
R102 220K
R103 18K
D16
C103 6.3V1000
C104 50V1
R104 3.9K
0V
PSUP1033Z

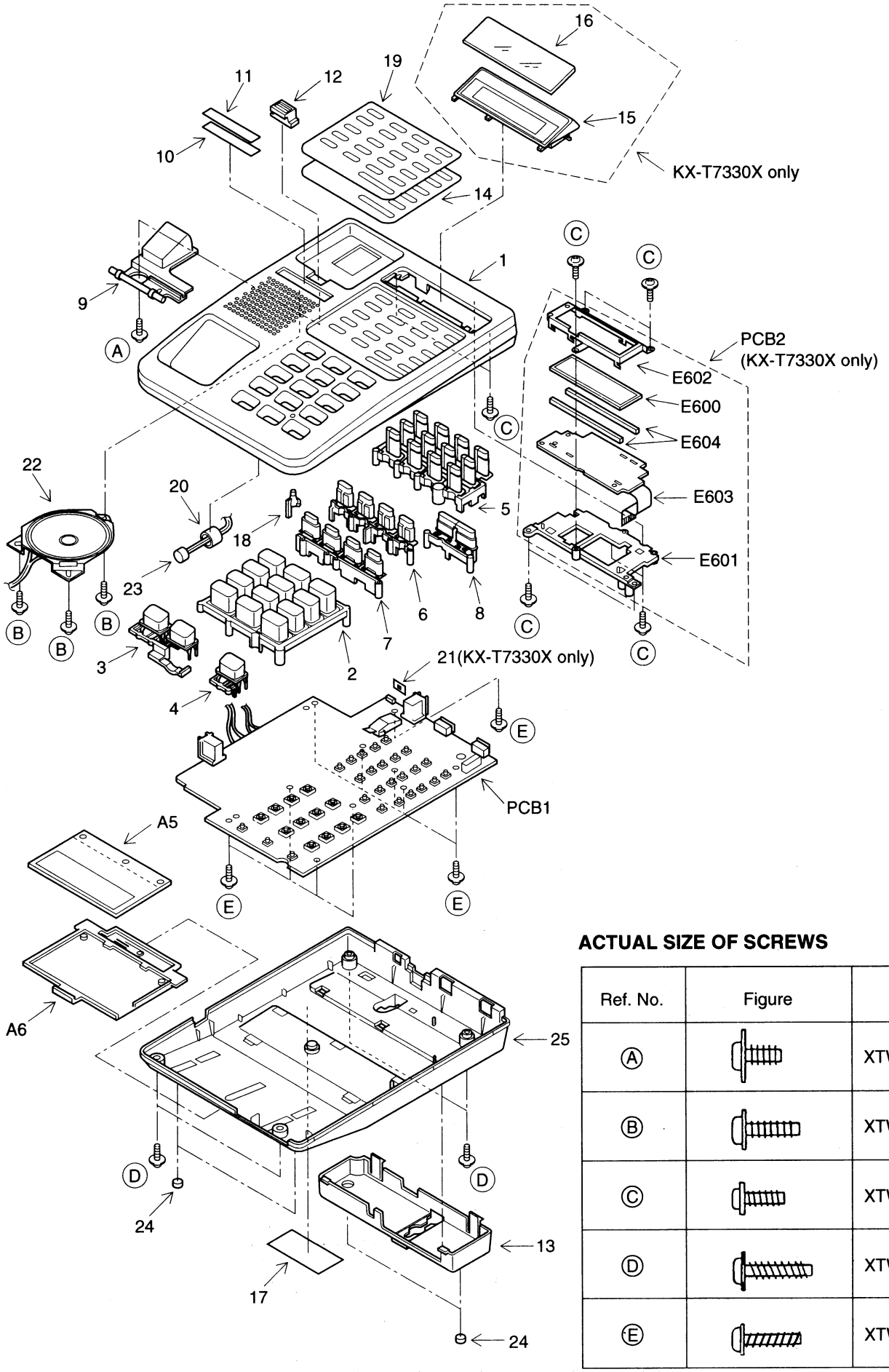
PRINTED CIRCUIT BOARD



ACCESSORIES AND PACKING MATERIALS



CABINET AND ELECTRICAL PARTS LOCATION



ACTUAL SIZE OF SCREWS

Ref. No.	Figure	Part No.
Ⓐ		XTW 3+W6F
Ⓑ		XTW3+S10P
Ⓒ		XTW26+8F
Ⓓ		XTW3+S14P
Ⓔ		XTW26+10E

This replacement parts list is for KX-T7330X only. Refer to the simplified manual (cover) for other areas.

REPLACEMENT PARTS LIST

Model KX-T7330X

Notes:

1. The marking (RTL) indicates that the Retention Time is limited for this item.
   After the discontinuation of this assembly in production, the item will continue tobe available for a specific period of time. The retention period of availability isdependent on the type of assembly, and in accordance with the laws governing part and product retention.
   After the end of this period, the assembly will nolonger be available.
2. Important safety notice.
   Components identified by ⚠ mark have special characteristics important for safety.
   When replacing any of these components, use only manufacturer's specified parts.
3. The S mark indicates service standard parts and may differ from production parts.
4. RESISTORS & CAPACITORS
   Unless otherwise specified.
   All resistors are in ohms (Ω) k=1000Ω, M=1000kΩ
   All capacitors are in MICRO FARADS(μF) P= μμF
   *Type &Wattage of Resistor
   Type

ERC:Solid	ERX:Metal Film	PQRD:Carbon
ERD:Carbon	ERG:Metal Oxide	PQRQ:Fuse
PQ4R:Chip	ERO:Metal Film	ERF:Wire Wound

   Wattage

10,16,18:1/8W	14,25,S2:1/4W	12,50,S1:1/2W	1:1W	2:2W	5:5W

   *Type & Voltage of Capacitor
   Type

ECFD:Semi-Conductor	ECCD,ECKD,PQCBC,PQVP:Ceramic
ECQS:Styrol	ECQM,ECQV,ECQE,ECQU,ECQB:Polyester
PQCBX,ECUV:Chip	ECEA,ECSZ,ECOS:Electrolytic
ECMS:Mica	ECQP:Polyproplylene

   Voltage

ECQ Type	ECQG ECQV Type	ECSZ Type	Others	
1H: 50V	05: 50V	OF:3.15V	OJ :6.3V	1V :35V
2A:100V	1:100V	1A:10V	1A :10V	50,1H:50V
2E:250V	2:200V	1V:35V	1C :16V	1J :63V
2H:500V		OJ:6.3V	1E,25:25V	2A :100V

Ref. No.	Part No.	Part Name & Description		Pcs
		CABINET & ELECTRICAL PARTS		
1	PSKM1018G1	CABINET BODY		1
2	PSBX1003X1	BUTTON, DIAL		1
3	PSBX1004Y1	BUTTON, REDIAL/HOLD		1
4	PSBX1005Y1	BUTTON, SP-PHONE		1
5	PSBX1022Z1	BUTTON, CO		1
6	PSBX1023Y1	BUTTON, INTERCOM etc.		1
7	PSBX1024Z1	BUTTON, PROGRAM etc.		1
8	PSBX1025Z1	BUTTON, VOLUME		1
9	PQBH10011X2	BUTTON, HOOK		1
10	PQHP532X	CARD, TEL. NO.		1
11	PQHR576Z	TRANSPARENT PLATE (for TEL. NO. CARD)		1
12	PQKE82Z1	HANGER	S	1
13	PQKL37Y7	STAND		1
14	PSGD1004Y1	CARD, TEL. NO. (MESSAGE)		1
15	PSGG1003Z1	GRILLE		1
16	PSGP1003Z1	PANEL, LCD		1
17	PSGT1061Z	NAME PLATE		1
18	PSHR1033Z	COVER, LED		1
19	PSHR1035Y	TRANSPARENT PLATE (for TEL. NO. CARD)		1
20	PQHG503Z	RUBBER PARTS, MIC COVER		1
21	PSHX1068Z	COVER, SWITCH		1
22	PQAS65P32Z	SPEAKER		1
23	RJM142Z	BUILTIN-MICROPHONE	S	1
24	PQHG316Z	RUBBER PARTS, LEG		4
25	PQKF196A7	CABINET, BOTTOM		1
		ACCESSORIES AND PACKING MATERIALS		
A1	PQJA214Y	CORD, HANDSET		1
A2	PQJA48W	CORD, TEL.		1
A3	PQJX2PSL01Y	HANDLE/HANDSET		1
A4	PSQX1036Z	INSTRUCTION BOOK		1
A5	PQHP5107Z	CARD, MEMORY		1
A6	PQHR9565Y7	GUIDE, MEMORY CARD		1
A7	PSGD1005Z	CARD, OVERLAY		1
A8	PQPH75Z	PROTECTION COVER		1
A9 (14)	PSGD1004X1	CARD, TEL. NO. (CONFERENCE)		1
P1	PSPK1203Z	GIFT BOX		1
P2	XZB26X40A01	PROTECTION COVER		1
		MAIN BOARD PARTS		
PCB1	PSWP1T7330X	MAIN BOARD ASS'Y(RTL)		1
		(ICs)		
IC1	PQVISC77655V	IC		1
IC2	PQVITC4066BF	IC		1
IC3	PQVINJM2904F	IC	S	1
IC4	PQVITC4011BF	IC		1
IC9	PSVI4688A54F	IC		1
		(TRANSISTORS)		
Q1	2SA1625	TRANSISTOR(SI)		1
Q2	PQVT2N6517CA	TRANSISTOR(SI)		1
Q3	2SA1625	TRANSISTOR(SI)		1
Q4,5	2SD1819A	TRANSISTOR(SI) (or 2SC4081Q)	S	2
Q6,7	PQVTBB1J3P	TRANSISTOR(SI)		2
Q12	2SD1819A	TRANSISTOR(SI) (or 2SC4081Q)	S	1
Q13,14	PQVTBB1J3P	TRANSISTOR(SI)		2
Q15,16	2SD1819A	TRANSISTOR(SI) (or 2SC4081Q)	S	2
Q17	PQVTDTA143XU	TRANSISTOR(SI) (for BOTTOM SIDE ON THE PCB)		1
Q17	2SC1740S	TRANSISTOR(SI) (for COMPONENT SIDE ON THE PCB)		1
Q31-38	2SD1819A	TRANSISTOR(SI) (or 2SC4081Q)	S	8
Q39	PQVTDTC123E	TRANSISTOR(SI)		1

This replacement parts list is for KX-T7330X only. Refer to the simplified manual (cover) for other areas.

Ref. No.	Part No.	Part Name & Description		Pcs
Q40-44	PQVTDTC123E	TRANSISTOR(SI)		5
Q45-48	PQVTDTC143E	TRANSISTOR(SI)		4
Q50	2SD1819A	TRANSISTOR(SI) (or 2SC4081Q)	S	1
Q52	2SD1819A	TRANSISTOR(SI) (or 2SC4081Q)	S	1
Q53	2SB1218A	TRANSISTOR(SI) (or 2SA1576Q)	S	1
Q54	UN5213	TRANSISTOR(SI)	S	1
Q62	2SD2136	TRANSISTOR(SI)		1
		(DIODES)		
D1	PQVDS1YB40F1	DIODE(SI)	S	1
D11,12,13	1SS119	DIODE(SI) (or 1SS131)	S	3
D15	1SS119	DIODE(SI) (or 1SS131)	S	1
D16	MA4036	DIODE(SI)		1
D20,21	1SS119	DIODE(SI) (or 1SS131)	S	2
D22	MA4068	DIODE(SI)		1
D23	1SS119	DIODE(SI) (or 1SS131)	S	1
D24	PQVDS1YB40F1	DIODE(SI)		1
D300-311	PSVDPY4607K	DIODE(SI)		12
D312,313	LN28RCALXUX8	LED	S	2
D314	LN28RCALXUX8	LED	S	1
D315	LN376GCPX	LED		1
D316	LN28RCALXUX8	LED	S	1
D611	1SS119	DIODE(SI) (or 1SS131)	S	1
D616	1SS119	DIODE(SI) (or 1SS131)	S	1
		(CONNECTOR)		
CN4	PQJS10X54Z	CONNECTOR, 10P		1
		(CAPACITORS)		
C1	ECEA1HK220	22		1
C3	ECEA1HKS100	10	S	1
C10	ECEA1HKS2R2	2.2		1
C11	ECEA0JU331	330		1
C14	PQCUV1H102J	0.001	S	1
C15	ECEA1HKS010	1	S	1
C16	PQCUV1E104MD	0.1	S	1
C17	ECEA1HKS100	10	S	1
C18	ECEA1CK101	100	S	1
C19	ECEA1HKS010	1	S	1
C20	ECEA1CKS470	47	S	1
C21	PQCUV1C683MD	0.068		1
C22	PQCUV1E104MD	0.1	S	1
C23	PQCUV1H153KB	0.015	S	1
C24	PQCUV1E473MD	0.047		1
C25	ECEA1HKS010	1	S	1
C26	ECEA1HKS4R7	4.7	S	1
C27	PQCUV1C683MD	0.068		1
C28	PQCUV1H153KB	0.015	S	1
C29	ECEA0JKS220	22	S	1
C30	PQCUV1C683MD	0.068		1
C31	PQCUV1H102J	0.001	S	1
C32	ECEA1HKS4R7	4.7	S	1
C33	ECEA1CK101	100	S	1
C34	PQCUV1E104MD	0.1	S	1
C35	ECUV1H104MD	0.1	S	1
C36	ECEA1CK101	100	S	1
C37	ECEA0JU102	1000		1
C38	ECEA1KC101	100	S	1
C39	PQCUV1E104MD	0.1	S	1

Ref. No.	Part No.	Part Name & Description		Pcs
C40	PQCUV1E104MD	0.1	S	1
C41	ECEA1HKSR47	0.47	S	1
C42	ECEA1HKS010	1	S	1
C43	ECEA1HKSR22	0.22	S	1
C44	ECEA1HKS010	1	S	1
C49	PQCUV1H103KB	0.01		1
C50	PQCUV1H103KB	0.01		1
C51	ECEA0JU331	330		1
C52	ECEA1HKS3R3	3.3	S	1
C54	PQCUV1E104MD	0.1	S	1
C55	ECQV1H333JZ	0.033	S	1
C57	ECEA1HKS010	1	S	1
C58	ECEA1CK101	100	S	1
C59	ECEA1HKS010	1	S	1
C60	ECEA1HKS010	1	S	1
C61	PQCUV1H103KB	0.01		1
C62	ECQB1H183JF	0.018		1
C63,64	ECEA1CKS100	10	S	2
C65	ECEA1CKS470	47	S	1
C71	PQCUV1E104MD	0.1	S	1
C75	PQCUV1H103KB	0.01		1
C80	ECEA0JU331	330		1
C91	PQCUV1E104MD	0.1	S	1
C92	PQCUV1E473MD	0.047		1
C93	PQCUV1H152KB	0.0015		1
C94	ECEA1HKS4R7	4.7	S	1
C95	PQCUV1C224ZF	0.22	S	1
C101	PQCUV1H103KB	0.01		1
C103	ECEA0JU102	1000		1
C104	ECEA1HKS010	1	S	1
C111,112	PQCUV1H150JC	15P		2
C116	ECEA1HKS010	1	S	1
C117	ECEA0JKS220	22	S	1
C118	PQCUV1H151JC	150P		1
C121	ECEA0JU102	1000		1
C161	PQCUV1H103KB	0.01		1
C162	ECEA1CKS100	10	S	1
C168	PQCUV1H393KB	0.039	S	1
C200	ECEA1HKS3R3	3.3	S	1
C300	PQCUV1E104MD	0.1	S	1
		(JACKS)		
JA1	PQJJ1TB26Z	JACK, TEL	S	1
JA2	PQJJ1TB18Z	JACK, HANDSET		1
		(RESISTORS)		
J17,18,19	PQ4R18XJ000	0		3
J20-29	PQ4R18XJ000	0		10
J31-39	PQ4R18XJ000	0		9
J40	PQ4R18XJ000	0		1
J42	PQ4R18XJ000	0		1
J44-49	PQ4R18XJ000	0		6
J50	PQ4R18XJ000	0		1
J52	PQ4R18XJ000	0		1
J53	PQ4R18XJ000	0		1
J55-59	PQ4R18XJ000	0		5

This replacement parts list is for KX-T7330X only. Refer to the simplified manual (cover) for other areas.

Ref. No.	Part No.	Part Name & Description	Pcs
J61	PQ4R18XJ000	0	1
J64	PQ4R10XJ000	0	1
J161	PQ4R10XJ000	0	1
J601,602	PQ4R10XJ000	0	2
J651	PQ4R10XJ000	0	1
J700	PQ4R18XJ000	0	1
J701,702	PQ4R10XJ000	0	2
J703,704	PQ4R18XJ000	0	2
J705	PQ4R10XJ000	0	1
J706	PQ4R18XJ000	0	1
J707	PQ4R10XJ000	0	1
J708	PQ4R10XJ000	0	1
J709	PQ4R10XJ000	0	1
J710	PQ4R10XJ000	0	1
J711	PQ4R10XJ000	0	1
J712	PQ4R10XJ000	0	1
J713	PQ4R18XJ000	0	1
J714	PQ4R10XJ000	0	1
J715	PQ4R18XJ000	0	1
J716-719	PQ4R10XJ000	0	4
J720	PQ4R10XJ000	0	1
J721	PQ4R18XJ000	0	1
J722	PQ4R18XJ000	0	1
J723	PQ4R18XJ000	0	1
J725	PQ4R10XJ000	0	1
J727,728	PQ4R10XJ000	0	2
J901-909	PQ4R10XJ000	0	9
J910,911	PQ4R10XJ000	0	2
J913-919	PQ4R10XJ000	0	7
J921-929	PQ4R10XJ000	0	9
J930-939	PQ4R10XJ000	0	10
J940	PQ4R10XJ000	0	1
J942	PQ4R10XJ000	0	1
J943	PQ4R10XJ000	0	1
L1,L2	PQ4R10XJ000	0	2
R2	PQ4R10XJ104	100K	1
R4	PQ4R10XJ184	180K	1
R5	PQ4R10XJ472	4.7K	1
R7	PQ4R10XJ393	39K	1
R9	PQ4R10XJ104	100K	1
R10	PQ4R18XJ470	47	1
R11	PQ4R10XJ180	18	1
R12	PQ4R10XJ000	0	1
R13	PQ4R10XJ821	820	1
R14	PQ4R10XJ000	0	1
R15	PQ4R10XJ182	1.8K	1
R17	PQ4R10XJ151	150	1
R18	PQ4R10XJ330	33	1
R19	PQ4R10XJ101	100	1
R20	PQ4R10XJ473	47K	1
R21	PQ4R10XJ332	3.3K	1
R22	PQ4R10XJ474	470K	1
R23,24	PQ4R10XJ121	120	2
R26	PQ4R10XJ272	2.7K	1
R27	PQ4R10XJ473	47K	1
R28	PQ4R10XJ682	6.8K	1
R29	PQ4R10XJ473	47K	1
R30	PQ4R10XJ104	100K	1
R31	PQ4R10XJ225	2.2M	1
R32	PQ4R10XJ303	30K	1
R33	PQ4R10XJ683	68K	1
R34	PQ4R10XJ822	8.2K	1
R35	PQ4R10XJ392	3.9K	1
R36	PQ4R10XJ275	2.7M	1
R37	PQ4R10XJ472	4.7K	1
R38	PQ4R10XJ183	18K	1
R39	PQ4R10XJ821	820	1
R40	PQ4R18XJ154	150K	1
R41	PQ4R10XJ103	10K	1
R42	PQ4R10XJ3R3	3.3	1
R43	PQ4R10XJ222	2.2K	1
R44	PQ4R10XJ123	12K	1
R46	PQ4R10XJ102	1K	1
R51	PQ4R10XJ100	10	1
R52	PQ4R10XJ473	47K	1
R53	PQ4R10XJ332	3.3K	1
R54	PQ4R10XJ682	6.8K	1
R55	PQ4R10XJ274	270K	1
R56	PQ4R10XJ471	470	1
R57	PQ4R10XJ473	47K	1
R58	PQ4R10XJ181	180	1
R59	PQ4R10XJ151	150	1
R60	PQ4R10XJ222	2.2K	1
R61	PQ4R10XJ471	470	1
R62	PQ4R10XJ473	47K	1
R63	PQ4R10XJ272	2.7K	1
R64	PQ4R10XJ274	270K	1
R65	PQ4R10XJ331	330	1
R69	PQ4R10XJ224	220K	1
R70	PQ4R10XJ102	1K	1
R71	PQ4R10XJ473	47K	1
R72	PQ4R10XJ393	39K	1
R75	PQ4R10XJ564	560K	1
R76	PQ4R10XJ000	0	1
R77	PQ4R10XJ103	10K	1
R78	PQ4R10XJ224	220K	1
R79	PQ4R10XJ103	10K	1
R80	PQ4R10XJ000	0	1
R81	PQ4R10XJ000	0	1
R82	PQ4R10XJ000	0	1
R85	PQ4R10XJ681	680	1
R86	PQ4R10XJ182	1.8K	1
R87	PQ4R10XJ272	2.7K	1
R91	PQ4R10XJ103	10K	1
R92	PQ4R10XJ183	18K	1
R93	PQ4R10XJ103	10K	1
R94	PQ4R10XJ472	4.7K	1
R95	PQ4R10XJ474	470K	1
R96	PQ4R10XJ103	10K	1
R97	PQ4R10XJ822	8.2K	1
R98	PQ4R10XJ104	100K	1
R99	PQ4R10XJ103	10K	1
R100	PQ4R10XJ104	100K	1
R101	PQ4R10XJ472	4.7K	1
R102	PQ4R10XJ224	220K	1
R103	PQ4R10XJ183	18K	1
R104	PQ4R10XJ392	3.9K	1

This replacement parts list is for KX-T7330X only. Refer to the simplified manual (cover) for other areas.

Ref. No.	Part No.	Part Name & Description		Pcs
R111-116	PQ4R10XJ223	22K		6
R118	PQ4R10XJ223	22K		1
R120	PQ4R18XJ100	10		1
R121	PQ4R10XJ221	220		1
R122	PQ4R10XJ472	4.7K		1
R123	PQ4R10XJ472	4.7K		1
R124	PQ4R10XJ101	100		1
R125	PQ4R10XJ222	2.2K		1
R126	PQ4R10XJ472	4.7K		1
R127	PQ4R10XJ102	1K		1
R128,129	PQ4R10XJ103	10K		2
R131	PQ4R10XJ105	1M		1
R132-135	PQ4R18XJ000	0		4
R137	PQ4R10XJ472	4.7K		1
R138	PQ4R10XJ472	4.7K		1
R139	PQ4R10XJ000	0		1
R140	PQ4R10XJ000	0		1
R141	PQ4R10XJ472	4.7K		1
R146	PQ4R10XJ680	68		1
R147	PQ4R18XJ220	22		1
R148	PQ4R18XJ680	68		1
R149	PQ4R10XJ220	22		1
R150	PQ4R18XJ680	68		1
R151	PQ4R10XJ220	22		1
R152	PQ4R10XJ221	220		1
R153	PQ4R10XJ681	680		1
R160	PQ4R10XJ332	3.3K		1
R200	PQ4R10XJ222	2.2K		1
R201	PQ4R10XJ103	10K		1
R300	PQ4R10XJ124	120K		1
R301	PQ4R10XJ273	27K		1
R302	PQ4R10XJ224	220K		1
R303	PQ4R10XJ563	56K		1
R305	PQ4R10XJ473	47K		1
R306	PQ4R18XJ221	220		1
R307	PQ4R10XJ271	270		1
R308	PQ4R10XJ221	220		1
R309	PQ4R10XJ000	0		1
R310	PQ4R10XJ221	220		1
R401	PQ4R10XJ104	100K		1
R403	PQ4R10XJ104	100K		1
R406,407	PQ4R10XJ104	100K		2
R408	PQ4R10XJ822	8.2K		1
R409	PQ4R10XJ104	100K		1
R606,607	PQ4R10XJ104	100K		2
R649	PQ4R10XJ104	100K		1
R700	PQ4R10XJ393	39K		1
R701	PQ4R10XJ473	47K		1
		(PHOTO TRANSDUCER)		
PC2	PQVIPS2532-1	PHOTO COUPLER	S	1
		(SWITCHES)		
SW1	ESE14A211	SWITCH, HOOK		1
SW2	PQSS3A17Y	SWITCH, CONTRAST		2
SW3	PQSS3A17Y	SWITCH, RINGER		1
SW4	PQSS2A16X	SWITCH, HEADSET/HANDSET		1
SW6-9	EVQ21005G	SWITCH		4
SW10-19	EVQ21005G	SWITCH		10
SW20-29	EVQ21005G	SWITCH		10
SW30-39	EVQQJJ05Q	SWITCH	S	10
SW40	EVQQJJ05Q	SWITCH	S	1
SW41	EVQQJJ05Q	SWITCH	S	1
SW42	EVQ21005G	SWITCH		1
		(TRANSFORMERS)		
T1	PQLT8D2B	TRANSFORMER		1
T2	ETE13K24AY	TRANSFORMER		1
		(VARIABLE RESISTOR)		
VR2	EVNDXAA03B24	SEMI-FIXED RESISTOR, 20K		1
		(CRYSTAL OSCILLATOR)		
X1	PQVCX4000N8Z	CRYSTAL OSCILLATOR		1

LCD BOARD PARTS

PCB2	PSWP2T7330X	LCD BOARD ASS'Y (RTL)	1
		(ICs)	
IC601	PSVI44780B24	IC	1
		(RESISTORS)	
R601-605	PQ4R10XJ152	1.5K	5
R606	PQ4R10XF9102	91K	1
		(OTHERS)	
E600	EDD073PV6AA	LCD	1
E601	PSHR1088Z	GUIDE, LCD	1
E602	PSMH1090Z	FRAME, LCD	1
E603	PSJE1003Z	FLAT CABLE	1
E604	PSJG1002Z	CONNECTOR	2

This replacement parts list is for KX-T7320X only. Refer to the simplified manual (cover) for other areas.

REPLACEMENT PARTS LIST

Model KX-T7320X

Notes:

1. The marking (RTL) indicates that the Retention Time is limited for this item. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependent on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.
2. Important safety notice. Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
3. The S mark indicates service standard parts and may differ from production parts.
4. RESISTORS & CAPACITORS
   Unless otherwise specified.
   All resistors are in ohms (Ω) k=1000Ω, M=1000kΩ
   All capacitors are in MICRO FARADS(μF) P= μμF
   *Type &Wattage of Resistor
   Type

ERC:Solid	ERX:Metal Film	PQRD:Carbon
ERD:Carbon	ERG:Metal Oxide	PQRQ:Fuse
PQ4R:Chip	ERO:Metal Film	ERF:Wire Wound

Wattage

10,16,18:1/8W	14,25,S2:1/4W	12,50,S1:1/2W	1:1W	2:2W	5:5W

*Type & Voltage of Capacitor
Type

ECFD:Semi-Conductor	ECCD,ECKD,PQCBC,PQVP:Ceramic
ECQS:Styrol	ECQM,ECQV,ECQE,ECQU,ECQB:Polyester
PQCBX,ECUV:Chip	ECEA,ECSZ,ECOS: Electrolytic
ECMS:Mica	ECQP:Polyproplylene

Voltage

ECQ Type	ECQG ECQV Type	ECSZ Type	Others	
1H: 50V	05: 50V	OF:3.15V	OJ :6.3V	1V :35V
2A:100V	1:100V	1A:10V	1A :10V	50,1H:50V
2E:250V	2:200V	1V:35V	1C :16V	1J :63V
2H:500V		OJ:6.3V	1E,25:25V	2A :100V

Ref. No.	Part No.	Part Name & Description		Pcs
		CABINET & ELECTRICAL PARTS		
1	PSKM1018K1	CABINET BODY		1
2	PSBX1003X1	BUTTON, DIAL		1
3	PSBX1004Y1	BUTTON, REDIAL/HOLD		1
4	PSBX1005Y1	BUTTON, SP-PHONE		1
5	PSBX1022Z1	BUTTON, CO		1
6	PSBX1023Y1	BUTTON, INTERCOM etc.		1
7	PSBX1024Z1	BUTTON, PROGRAM etc.		1
8	PSBX1025Z1	BUTTON, VOLUME		1
9	PQBH10011X2	BUTTON, HOOK		1
10	PQHP532X	CARD, TEL. NO.		1
11	PQHR576Z	TRANSPARENT PLATE (for TEL. NO. CARD)		1
12	PQKE82Z1	HANGER	S	1
13	PQKL37Y7	STAND		1
14	PSGD1016Y1	CARD, TEL. NO. (MESSAGE)		1
15	Not Used			
16	Not Used			
17	PSGT1223Z	NAME PLATE		1
18	PSHR1033Z	COVER, LED		1
19	PSHR1074Z	TRANSPARENT PLATE (for TEL. NO. CARD)		1
20	PQHG503Z	RUBBER PARTS, MIC COVER		1
21	Not Used			
22	PQAS65P32Z	SPEAKER		1
23	RJM142Z	BUILTIN-MICROPHONE	S	1
24	PQHG316Z	RUBBER PARTS, LEG		4
25	PSKF1007Z1	CABINET, BOTTOM		1
		ACCESSORIES AND PACKING MATERIALS		
A1	PQJA214Y	CORD, HANDSET		1
A2	PQJA48W	CORD, TEL.		1
A3	PQJX2PSL01Y	HANDLE/HANDSET		1
A4	PSQX1036Z	INSTRUCTION BOOK		1
A5	PQHP5107Z	CARD, MEMORY		1
A6	PQHR9565Y7	GUIDE, MEMORY CARD		1
A7	Not Used			
A8	PQPH75Y	PROTECTION COVER		1
A9 (14)	PSGD1016X1	CARD, TEL. NO. (CONFERENCE)		1
P1	PSPK1166Z	GIFT BOX		1
P2	XZB26X40A01	PROTECTION COVER		1
		MAIN BOARD PARTS		
PCB1	PSWP1T7320X	MAIN BOARD ASS'Y(RTL)		1
		(ICs)		
IC1	PQVISC77655V	IC		1
IC2	PQVITC4066BF	IC		1
IC3	PQVINJM2904F	IC	S	1
IC4	PQVITC4011BF	IC		1
IC9	PSVI4688A54F	IC		1
		(TRANSISTORS)		
Q1	2SA1625	TRANSISTOR(SI)		1
Q2	PQVT2N6517CA	TRANSISTOR(SI)		1
Q3	2SA1625	TRANSISTOR(SI)		1
Q4,5	2SD1819A	TRANSISTOR(SI) (or 2SC4081Q)	S	2
Q6,7	PQVTBB1J3P	TRANSISTOR(SI)		2
Q12	2SD1819A	TRANSISTOR(SI) (or 2SC4081Q)	S	1
Q13,14	PQVTBB1J3P	TRANSISTOR(SI)		2
Q15,16	2SD1819A	TRANSISTOR(SI) (or 2SC4081Q)	S	2
Q17	PQVTDTA143XU	TRANSISTOR(SI) (for BOTTOM SIDE ON THE PCB)		1
Q17	2SC1740S	TRANSISTOR(SI) (for COMPONENT SIDE ON THE PCB)		1
Q31-38	2SD1819A	TRANSISTOR(SI) (or 2SC4081Q)	S	8
Q39	PQVTDTC123E	TRANSISTOR(SI)		1

This replacement parts list is for KX-T7320X only. Refer to the simplified manual (cover) for other areas.

Ref. No.	Part No.	Part Name & Description		Pcs
Q40-44	PQVTDTC123E	TRANSISTOR(SI)		5
Q45-48	PQVTDTC143E	TRANSISTOR(SI)		4
Q50	2SD1819A	TRANSISTOR(SI) (or 2SC4081Q)	S	1
Q52	2SD1819A	TRANSISTOR(SI) (or 2SC4081Q)	S	1
Q53	2SB1218A	TRANSISTOR(SI) (or 2SA1576Q)	S	1
Q54	UN5213	TRANSISTOR(SI)	S	1
Q62	2SD2136	TRANSISTOR(SI)		1
		(DIODES)		
D1	PQVDS1YB40F1	DIODE(SI)	S	1
D12,13	1SS119	DIODE(SI) (or 1SS131)	S	2
D15	1SS119	DIODE(SI) (or 1SS131)	S	1
D16	MA4036	DIODE(SI)		1
D20,21	1SS119	DIODE(SI) (or 1SS131)	S	2
D22	MA4068	DIODE(SI)		1
D23	1SS119	DIODE(SI) (or 1SS131)	S	1
D24	PQVDS1YB40F1	DIODE(SI)		1
D300-311	PSVDPY4607K	LED		12
D312,313	LN28RCALXUX8	LED	S	2
D314	LN28RCALXUX8	LED	S	1
D315	LN376GCPX	LED		1
D316	LN28RCALXUX8	LED	S	1
D611	1SS119	DIODE(SI) (or 1SS131)	S	1
D616	1SS119	DIODE(SI) (or 1SS131)	S	1
		(CAPACITORS)		
C1	ECEA1HK220	22		1
C3	ECEA1HKS100	10	S	1
C10	ECEA1HKS2R2	2.2		1
C11	ECEA0JU331	330		1
C14	PQCUV1H102J	0.001	S	1
C15	ECEA1HKS010	1	S	1
C16	PQCUV1E104MD	0.1	S	1
C17	ECEA1HKS100	10	S	1
C18	ECEA1CK101	100	S	1
C19	ECEA1HKS010	1	S	1
C20	ECEA1CKS470	47	S	1
C21	PQCUV1C683MD	0.068		1
C22	PQCUV1E104MD	0.1	S	1
C23	PQCUV1H153KB	0.015	S	1
C24	PQCUV1E473MD	0.047		1
C25	ECEA1HKS010	1	S	1
C26	ECEA1HKS4R7	4.7	S	1
C27	PQCUV1C683MD	0.068		1
C28	PQCUV1H153KB	0.015	S	1
C29	ECEA0JKS220	22	S	1
C30	PQCUV1C683MD	0.068		1
C31	PQCUV1H102J	0.001	S	1
C32	ECEA1HKS4R7	4.7	S	1
C33	ECEA1CK101	100	S	1
C34	PQCUV1E104MD	0.1	S	1
C35	ECUV1H104MD	0.1	S	1
C36	ECEA1CK101	100		1
C37	ECEA0JU102	1000	S	1
C38	ECEA1CK101	100	S	1
C39	PQCUV1E104MD	0.1		

Ref. No.	Part No.	Part Name & Description		Pcs
C40	PQCUV1E104MD	0.1	S	1
C41	ECEA1HKSR47	0.47	S	1
C42	ECEA1HKS010	1	S	1
C43	ECEA1HKSR22	0.22	S	1
C44	ECEA1HKS010	1	S	1
C49	PQCUV1H103KB	0.01		1
C50	PQCUV1H103KB	0.01		1
C51	ECEA0JU331	330		1
C52	ECEA1HKS3R3	3.3	S	1
C54	PQCUV1E104MD	0.1	S	1
C55	ECQV1H333JZ	0.033	S	1
C57	ECEA1HKS010	1	S	1
C58	ECEA1CK101	100	S	1
C59	ECEA1HKS010	1	S	1
C60	ECEA1HKS010	1	S	1
C61	PQCUV1H103KB	0.01		1
C62	ECQB1H183JF	0.018		1
C63,64	ECEA1CKS100	10	S	2
C65	ECEA1CKS470	47	S	1
C71	PQCUV1E104MD	0.1	S	1
C75	PQCUV1H103KB	0.01		1
C91	PQCUV1E104MD	0.1	S	1
C92	PQCUV1E473MD	0.047		1
C93	PQCUV1H152KB	0.0015		1
C94	ECEA1HKS4R7	4.7	S	1
C95	PQCUV1C224ZF	0.22	S	1
C101	PQCUV1H103KB	0.01		1
C103	ECEA0JU102	1000		1
C104	ECEA1HKS010	1	S	1
C111,112	PQCUV1H150JC	15P		2
C116	ECEA1HKS010	1	S	1
C117	ECEA0JKS220	22	S	1
C118	PQCUV1H151JC	150P		1
C121	ECEA0JU102	1000		1
C161	PQCUV1H103KB	0.01		1
C162	ECEA1CKS100	10	S	1
C168	PQCUV1H393KB	0.039	S	1
C200	ECEA1HKS3R3	3.3	S	1
C300	PQCUV1E104MD	0.1	S	1
		(JACKS)		
JA1	PQJJ1TB26Z	JACK, TEL	S	1
JA2	PQJJ1TB18Z	JACK, HANDSET		1
		(RESISTORS)		
J17,18,19	PQ4R18XJ000	0		3
J20-29	PQ4R18XJ000	0		10
J31-39	PQ4R18XJ000	0		9
J40	PQ4R18XJ000	0		1
J42	PQ4R18XJ000	0		1
J44-49	PQ4R18XJ000	0		6
J50	PQ4R18XJ000	0		1
J52	PQ4R18XJ000	0		1
J53	PQ4R18XJ000	0		1
J55-59	PQ4R18XJ000	0		5

This replacement parts list is for KX-T7320X only. Refer to the simplified manual (cover) for other areas.

Ref. No.	Part No.	Part Name & Description	Pcs
J61	PQ4R18XJ000	0	1
J64	PQ4R10XJ000	0	1
J161	PQ4R10XJ000	0	1
J601,602	PQ4R10XJ000	0	2
J650,651	PQ4R10XJ000	0	2
J700	PQ4R18XJ000	0	1
J701,702	PQ4R10XJ000	0	2
J703,704	PQ4R18XJ000	0	2
J705	PQ4R10XJ000	0	1
J706	PQ4R18XJ000	0	1
J707	PQ4R10XJ000	0	1
J708	PQ4R10XJ000	0	1
J709	PQ4R10XJ000	0	1
J710	PQ4R10XJ000	0	1
J711	PQ4R10XJ000	0	1
J712	PQ4R10XJ000	0	1
J713	PQ4R18XJ000	0	1
J714	PQ4R10XJ000	0	1
J715	PQ4R18XJ000	0	1
J716-719	PQ4R10XJ000	0	4
J720	PQ4R10XJ000	0	1
J721	PQ4R18XJ000	0	1
J722	PQ4R18XJ000	0	1
J723	PQ4R18XJ000	0	1
J725	PQ4R10XJ000	0	1
J727,728	PQ4R10XJ000	0	2
J901-909	PQ4R10XJ000	0	9
J910,911	PQ4R10XJ000	0	2
J913-919	PQ4R10XJ000	0	7
J921-929	PQ4R10XJ000	0	9
J930-939	PQ4R10XJ000	0	10
J940	PQ4R10XJ000	0	1
J942	PQ4R10XJ000	0	1
J943	PQ4R10XJ000	0	1
L1,L2	PQ4R10XJ000	0	2
R2	PQ4R10XJ104	100K	1
R4	PQ4R10XJ184	180K	1
R5	PQ4R10XJ472	4.7K	1
R7	PQ4R10XJ393	39K	1
R9	PQ4R10XJ104	100K	1
R10	PQ4R18XJ470	47	1
R11	PQ4R10XJ180	18	1
R12	PQ4R10XJ000	0	1
R13	PQ4R10XJ821	820	1
R14	PQ4R10XJ000	0	1
R15	PQ4R10XJ182	1.8K	1
R17	PQ4R10XJ151	150	1
R18	PQ4R10XJ330	33	1
R19	PQ4R10XJ101	100	1
R20	PQ4R10XJ473	47K	1
R21	PQ4R10XJ332	3.3K	1
R22	PQ4R10XJ474	470K	1
R23,24	PQ4R10XJ121	120	2
R26	PQ4R10XJ272	2.7K	1
R27	PQ4R10XJ473	47K	1
R28	PQ4R10XJ682	6.8K	1
R29	PQ4R10XJ473	47K	1

Ref. No.	Part No.	Part Name & Description	Pcs
R30	PQ4R10XJ104	100K	1
R31	PQ4R10XJ225	2.2M	1
R32	PQ4R10XJ303	30K	1
R33	PQ4R10XJ683	68K	1
R34	PQ4R10XJ822	8.2K	1
R35	PQ4R10XJ392	3.9K	1
R36	PQ4R10XJ275	2.7M	1
R37	PQ4R10XJ472	4.7K	1
R38	PQ4R10XJ183	18K	1
R39	PQ4R10XJ821	820	1
R40	PQ4R18XJ154	150K	1
R41	PQ4R10XJ103	10K	1
R42	PQ4R10XJ3R3	3.3	1
R43	PQ4R10XJ222	2.2K	1
R44	PQ4R10XJ123	12K	1
R46	PQ4R10XJ102	1K	1
R51	PQ4R10XJ100	10	1
R52	PQ4R10XJ473	47K	1
R53	PQ4R10XJ332	3.3K	1
R54	PQ4R10XJ682	6.8K	1
R55	PQ4R10XJ274	270K	1
R56	PQ4R10XJ471	470	1
R57	PQ4R10XJ473	47K	1
R58	PQ4R10XJ181	180	1
R59	PQ4R10XJ151	150	1
R60	PQ4R10XJ222	2.2K	1
R61	PQ4R10XJ471	470	1
R62	PQ4R10XJ473	47K	1
R63	PQ4R10XJ272	2.7K	1
R64	PQ4R10XJ274	270K	1
R65	PQ4R10XJ331	330	1
R69	PQ4R10XJ224	220K	1
R70	PQ4R10XJ102	1K	1
R71	PQ4R10XJ473	47K	1
R72	PQ4R10XJ393	39K	1
R75	PQ4R10XJ564	560K	1
R76	PQ4R10XJ000	0	1
R77	PQ4R10XJ103	10K	1
R78	PQ4R10XJ224	220K	1
R79	PQ4R10XJ103	10K	1
R80	PQ4R10XJ000	0	1
R81	PQ4R10XJ000	0	1
R82	PQ4R10XJ000	0	1
R91	PQ4R10XJ103	10K	1
R92	PQ4R10XJ183	18K	1
R93	PQ4R10XJ103	10K	1
R94	PQ4R10XJ472	4.7K	1
R95	PQ4R10XJ474	470K	1
R96	PQ4R10XJ103	10K	1
R97	PQ4R10XJ822	8.2K	1
R98	PQ4R10XJ104	100K	1
R99	PQ4R10XJ103	10K	1
R100	PQ4R10XJ104	100K	1
R101	PQ4R10XJ472	4.7K	1
R102	PQ4R10XJ224	220K	1
R103	PQ4R10XJ183	18K	1
R104	PQ4R10XJ392	3.9K	1

This replacement parts list is for KX-T7320X only. Refer to the simplified manual (cover) for other areas.

Ref. No.	Part No.	Part Name & Description		Pcs
R111-116	PQ4R10XJ223	22K		6
R118	PQ4R10XJ223	22K		1
R120	PQ4R18XJ100	10		1
R121	PQ4R10XJ221	220		1
R122	PQ4R10XJ472	4.7K		1
R123	PQ4R10XJ472	4.7K		1
R124	PQ4R10XJ101	100		1
R125	PQ4R10XJ222	2.2K		1
R126	PQ4R10XJ472	4.7K		1
R127	PQ4R10XJ102	1K		1
R128,129	PQ4R10XJ103	10K		2
R131	PQ4R10XJ105	1M		1
R132-135	PQ4R18XJ000	0		4
R137	PQ4R10XJ472	4.7K		1
R138	PQ4R10XJ472	4.7K		1
R139	PQ4R10XJ000	0		1
R140	PQ4R10XJ000	0		1
R141	PQ4R10XJ472	4.7K		1
R146	PQ4R10XJ680	68		1
R147	PQ4R18XJ220	22		1
R148	PQ4R18XJ680	68		1
R149	PQ4R10XJ220	22		1
R150	PQ4R18XJ680	68		1
R151	PQ4R10XJ220	22		1
R152	PQ4R10XJ221	220		1
R153	PQ4R10XJ681	680		1
R160	PQ4R10XJ332	3.3K		1
R200	PQ4R10XJ222	2.2K		1
R201	PQ4R10XJ103	10K		1
R300	PQ4R10XJ124	120K		1
R301	PQ4R10XJ273	27K		1
R302	PQ4R10XJ224	220K		1
R303	PQ4R10XJ563	56K		1
R305	PQ4R10XJ473	47K		1
R306	PQ4R18XJ221	220		1
R307	PQ4R10XJ271	270		1
R308	PQ4R10XJ221	220		1
R309	PQ4R10XJ000	0		1
R310	PQ4R10XJ221	220		1
R401	PQ4R10XJ104	100K		1
R405	PQ4R10XJ104	100K		1
R406,407	PQ4R10XJ104	100K		2
R408	PQ4R10XJ822	8.2K		1
R409	PQ4R10XJ104	100K		1
R606,607	PQ4R10XJ104	100K		2
R649	PQ4R10XJ104	100K		1
R700	PQ4R10XJ393	39K		1
		(PHOTO TRANSDUCER)		
PC2	PQVIPS2532-1	PHOTO COUPLER	S	1
		(SWITCHES)		
SW1	ESE14A211	SWITCH, HOOK		1
SW3	PQSS3A17Y	SWITCH, RINGER		1
SW6-9	EVQ21005G	SWITCH		4
SW10-19	EVQ21005G	SWITCH		10
SW20-29	EVQ21005G	SWITCH		10
SW30-39	EVQQJJ05Q	SWITCH	S	10
SW40	EVQQJJ05Q	SWITCH	S	1
SW41	EVQQJJ05Q	SWITCH	S	1
SW42	EVQ21005G	SWITCH		1
		(TRANSFORMERS)		
T1	PQLT8D2B	TRANSFORMER		1
T2	ETE13K24AY	TRANSFORMER		1
		(VARIABLE RESISTOR)		
VR2	EVNDXAA03B24	SEMI-FIXED RESISTOR, 20K		1
		(CRYSTAL OSCILLATOR)		
X1	PQVCX4000N8Z	CRYSTAL OSCILLATOR	S	1